

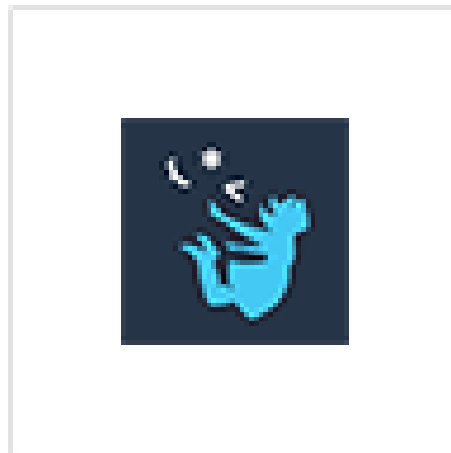


Loading...

version 3.4.0.0+build123



Program Alice za izradu 3D animacija



Alice 3.exe

www.alice.org

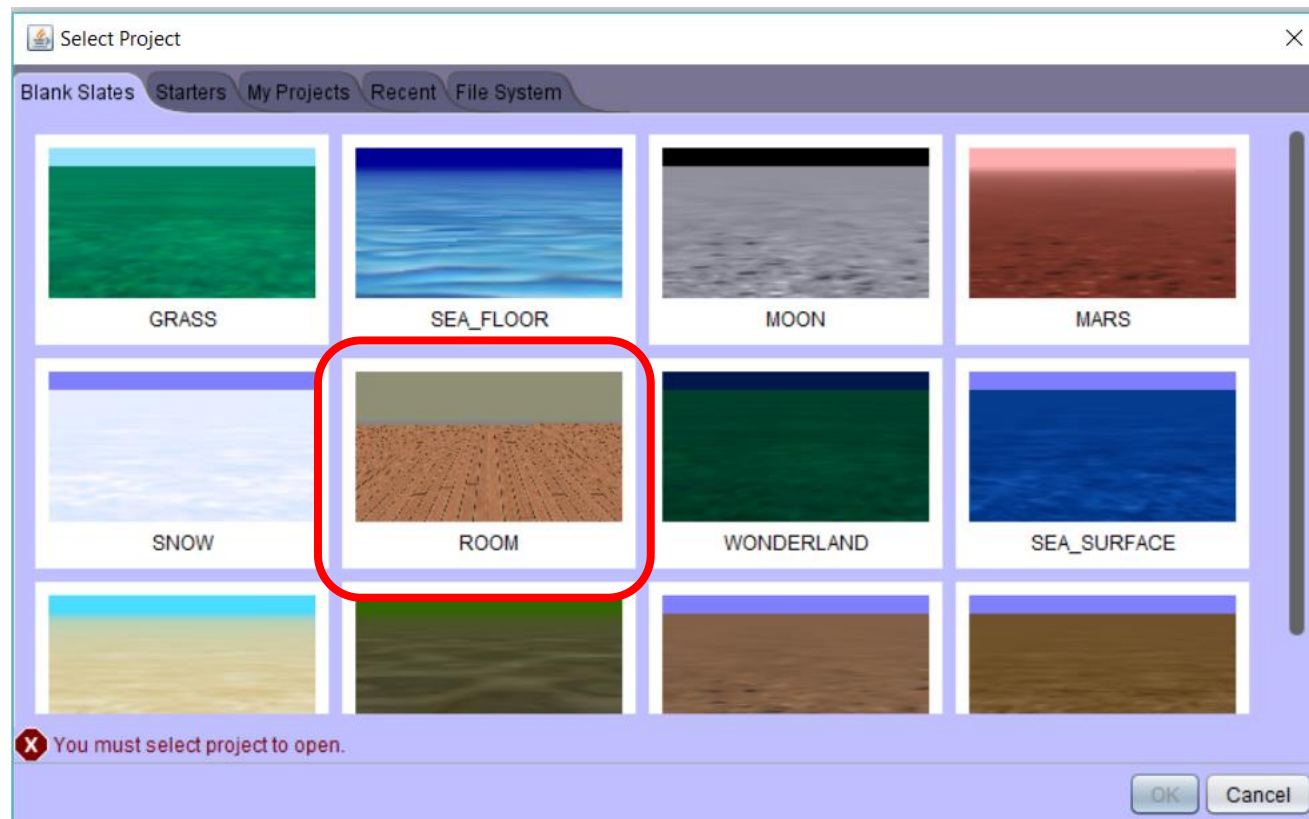
Pogledajmo primjer programa u Alice

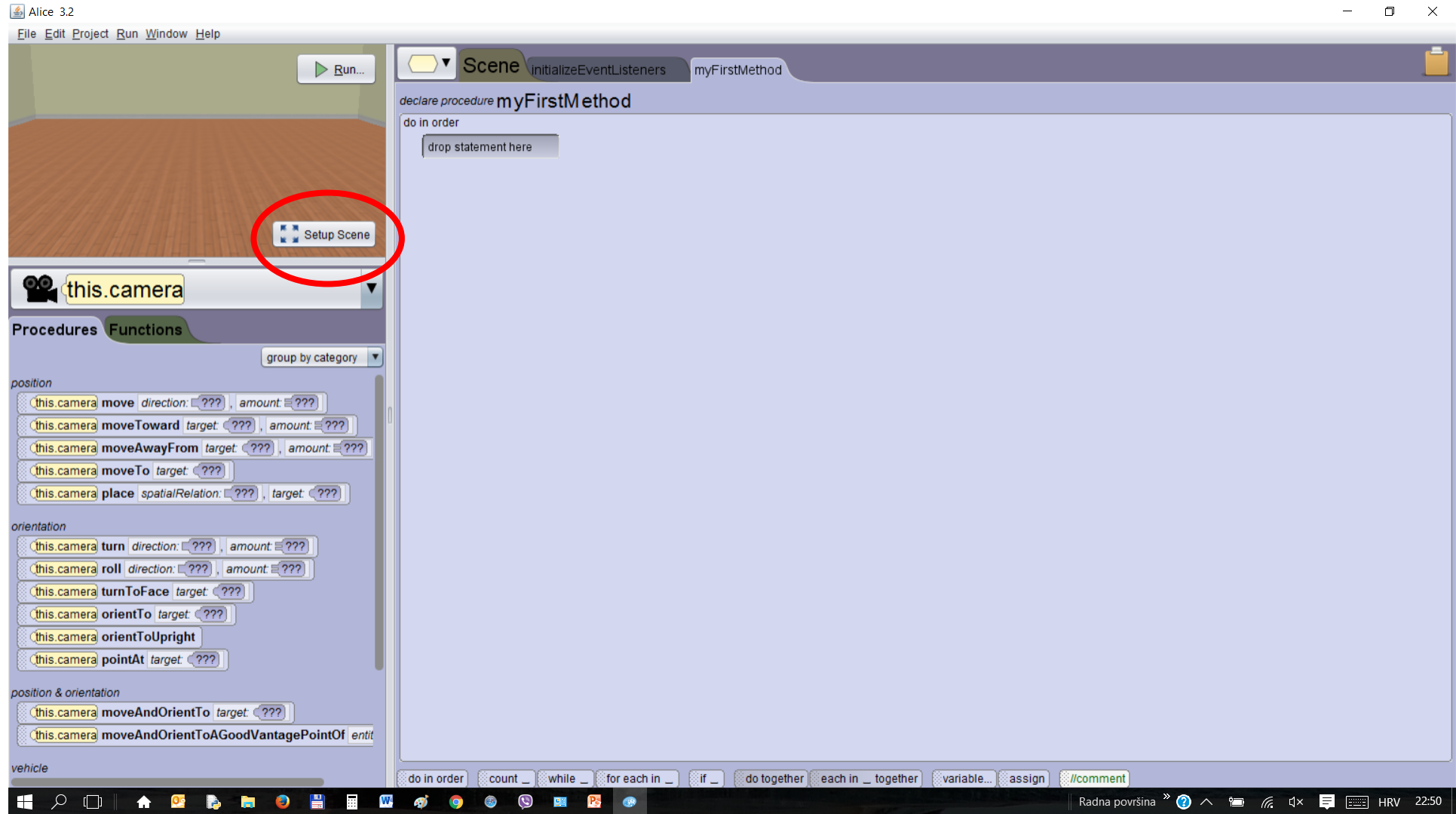


SortiranjeHRV.a3p

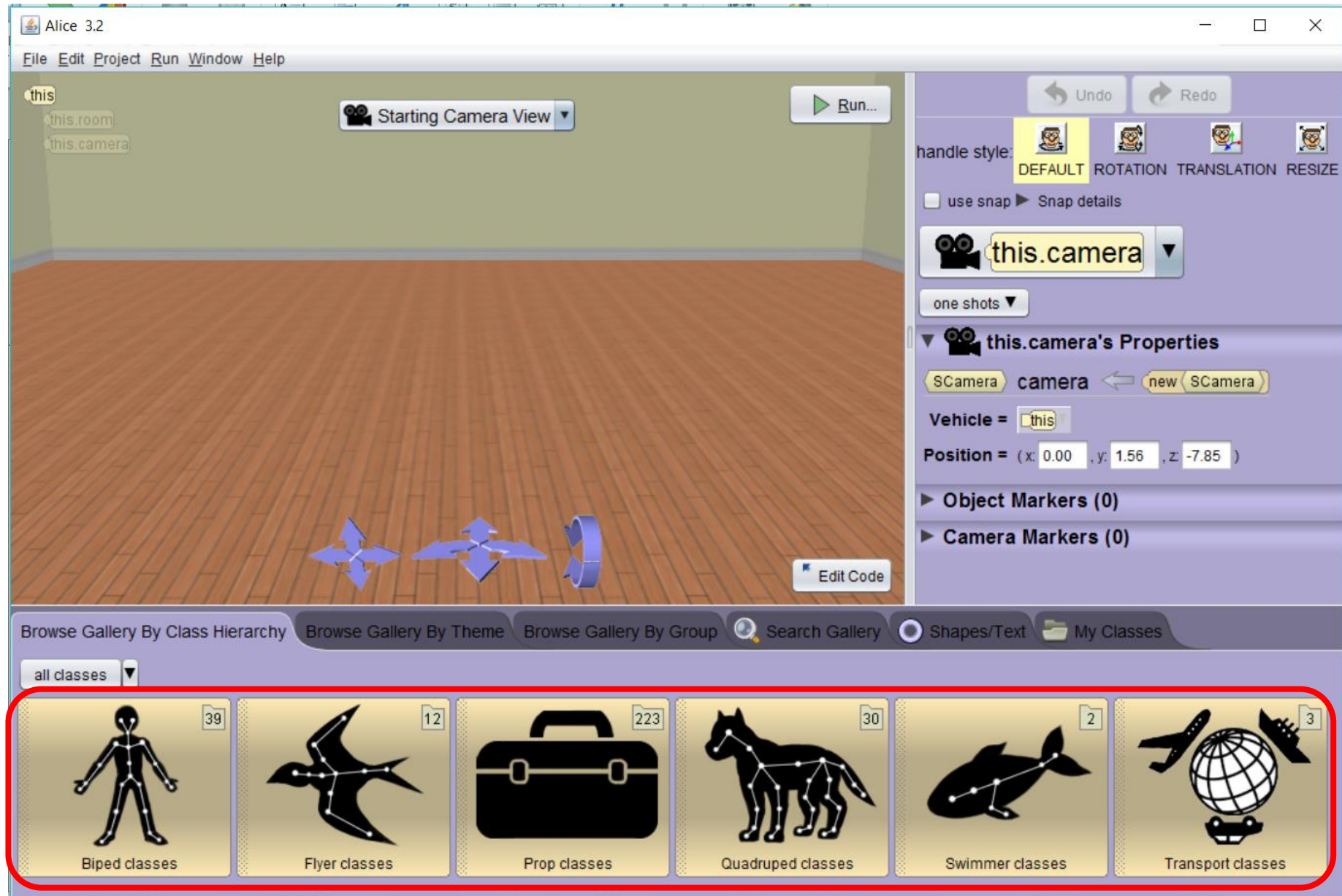
Namještanje i organizacija scene

Na početku rada odabiremo vrstu pozadine našeg projekta:





U scenu umećemo statične i dinamične objekte iz izbornika na dnu:

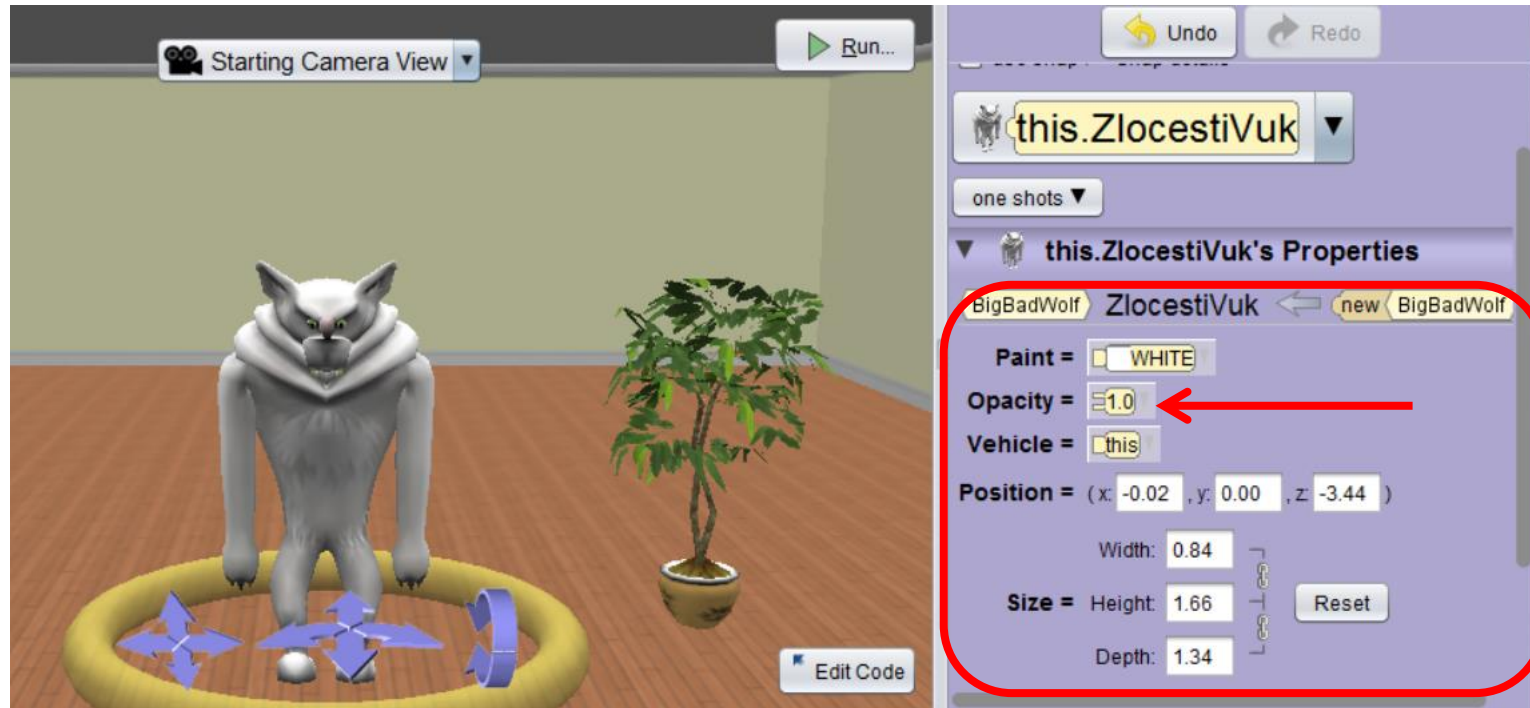


Umetanje objekata

Objekt možemo umetnuti na dva načina:

- 1. *dvoklikom*** (dolazi u centar scene i dajemo mu JEDINSTVENO ime)
- 2. *povlačenjem*** na mjesto na sceni (i davanjem JEDINSTVENOG imena)





Spremajte često!

Pogledi kamere:



Vuk se okreće i gleda u Alisu:



one shots procedure služe za
namještanje scene



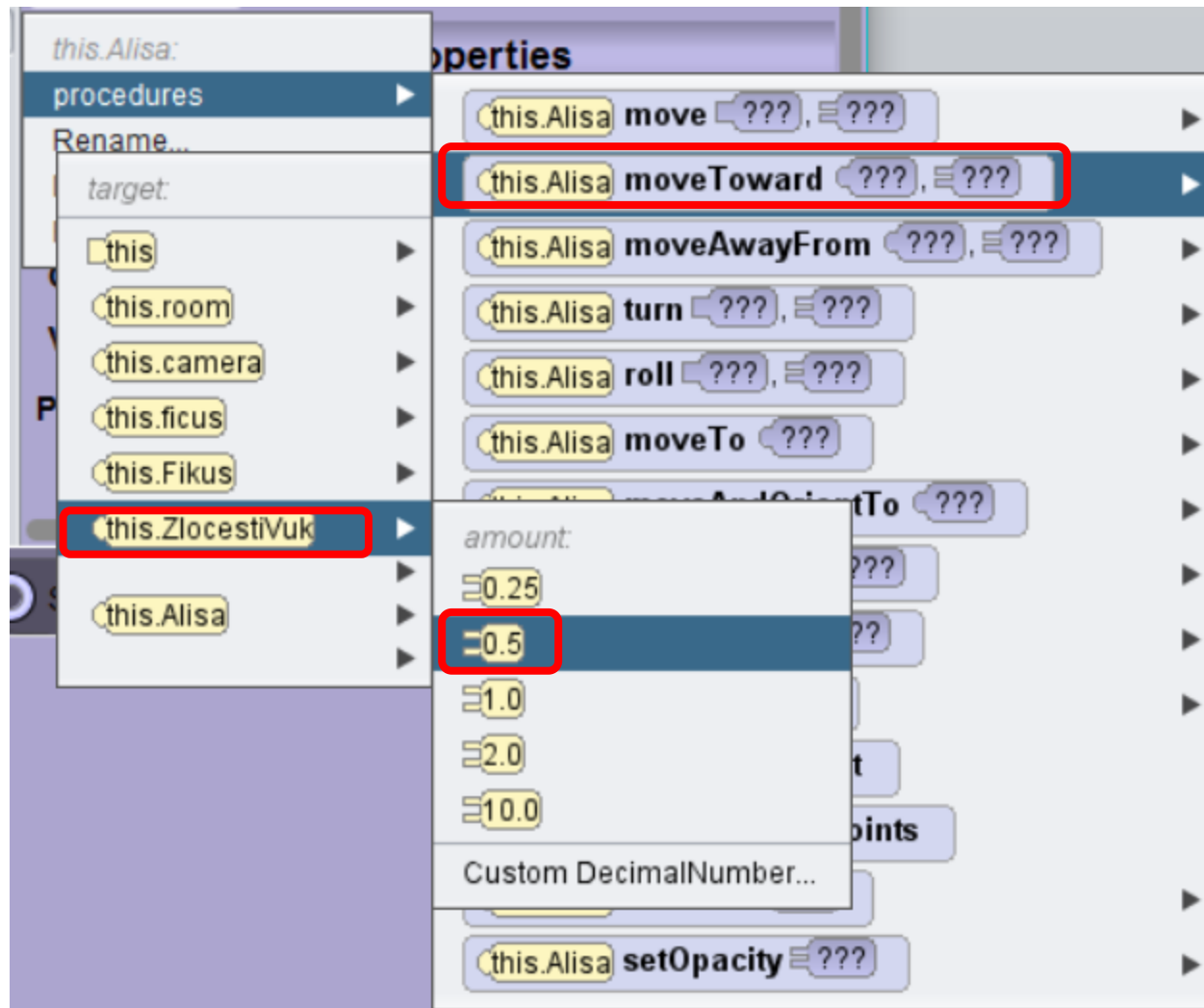


Okrenite Alisu prema vuku:



Približite Alisu pola koraka prema zločestom vuku:





Rukovanje:

getRightShoulder - turn left 0.125

Vuk okreće glavu prema nama:



SBiped Joints:

-  this.BijeliVuk getPelvis
-  this.BijeliVuk getSpineBase
-  this.BijeliVuk getNeck
-  this.BijeliVuk getHead
-  this.BijeliVuk getMouth
-  this.BijeliVuk getRightEye
-  this.BijeliVuk getLeftEye
-  this.BijeliVuk getLeftEyelid
-  this.BijeliVuk getRightEyelid
-  this.BijeliVuk getRightHip
-  this.BijeliVuk getRightKnee
-  this.BijeliVuk getRightAnkle
-  this.BijeliVuk getLeftHip
-  this.BijeliVuk getLeftKnee
-  this.BijeliVuk getLeftAnkle
-  this.BijeliVuk getRightClavicle
-  this.BijeliVuk getRightShoulder
-  this.BijeliVuk getRightElbow
-  this.BijeliVuk getRightWrist
-  this.BijeliVuk getRightMiddleFinger
-  this.BijeliVuk getLeftClavicle

Undo



ROTATION

ils

uk


s Prop

0.00 , z

pes/Text



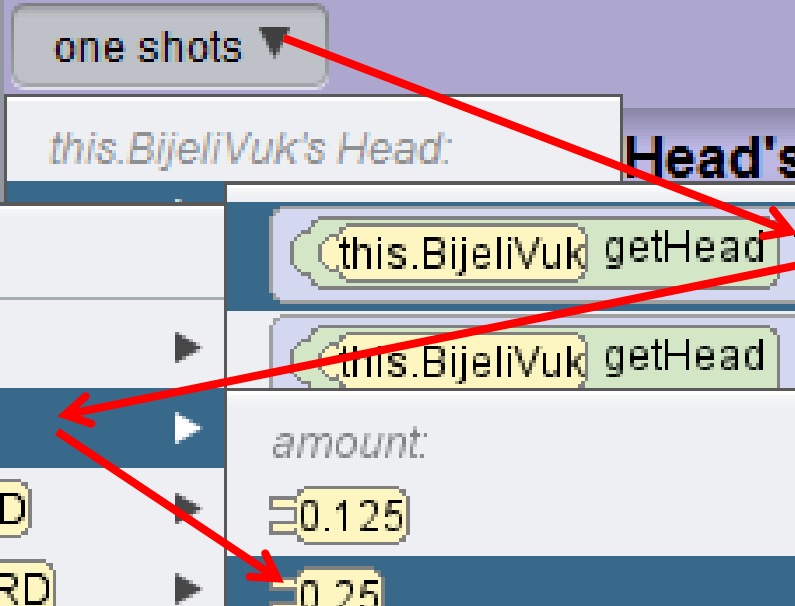
☐ use snap ▶ Snap details

 `this.BijeliVuk` getHead ▼

one shots ▼

this.BijeliVuk's Head: **Head's Properties**

direction:	amount:	Property
<input type="checkbox"/> LEFT	<input type="checkbox"/> 0.125	<code>this.BijeliVuk</code> getHead turn <input type="text" value="???"/> , <input type="text" value="???"/>
<input checked="" type="checkbox"/> RIGHT	<input checked="" type="checkbox"/> 0.25	<code>this.BijeliVuk</code> getHead roll <input type="text" value="???"/> , <input type="text" value="???"/>
<input type="checkbox"/> FORWARD	<input type="checkbox"/> 0.5	turnToFace <input type="text" value="???"/>
<input type="checkbox"/> BACKWARD		pointAt <input type="text" value="???"/>
		orientToUpright



Dijelovi tijela se mogu pomicati
u početni položaj i pomoću miša
i krugova za rotaciju:



move – up down left right forward backward – **objekt se POKREĆE**

turn – left right forward backward – **objekt ne mijenja mjesto (stajalište) – okreće se i naklanja**



CRVENO

turn

forward - backward



ZELENO

turn

left - right



PLAVO

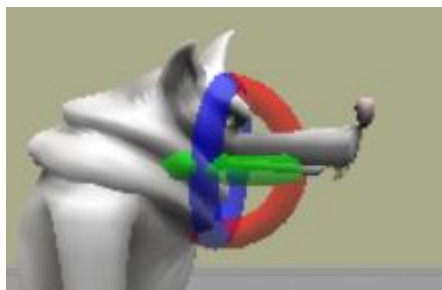
roll

left - right



roll – left right – **objekt ne mijenja mjesto ni usmjerenje**

Vuku se mogu otvoriti usta:



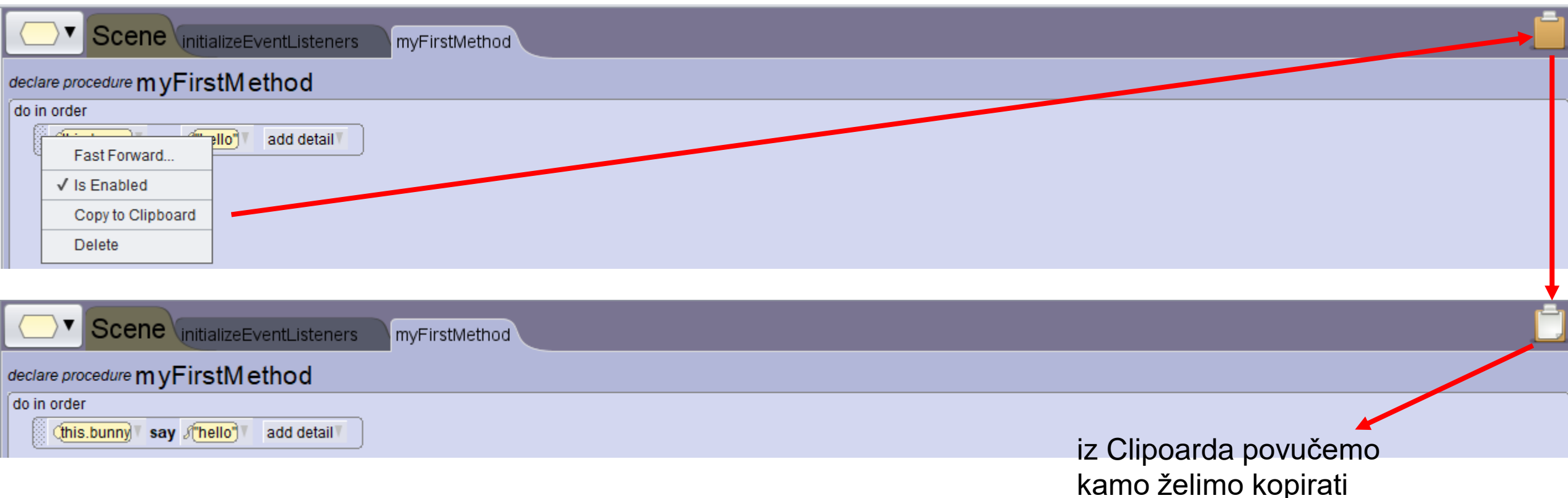
turn forward 0.125



Kopiranje naredbi

Kopiramo naredbu tako da pritisnemo na tipkovnici Ctrl i istovremeno povučemo naredbu za točkice na drugo mjesto.

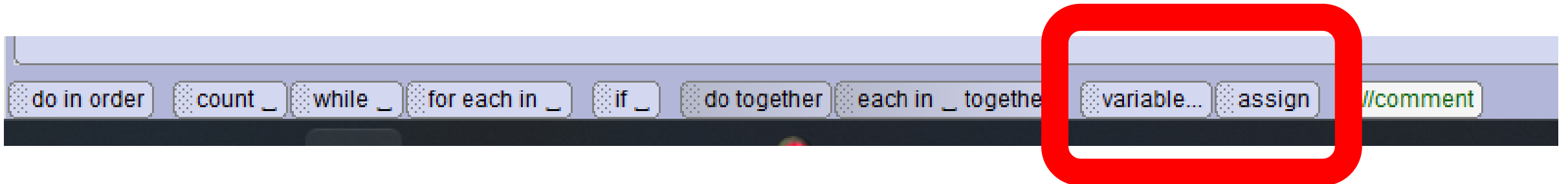
Drugi način kopiranja je desnim klikom na točkice i Copy to Clipboard:



Varijable

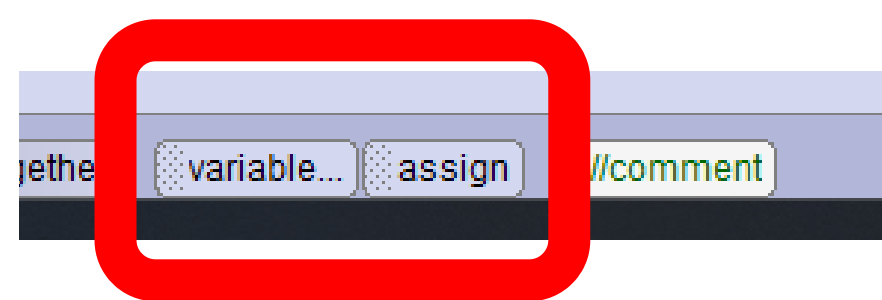
Rezervirana mjesta u memoriji (rezervirate ih tako da im odredite ime). Na početku se definira vrsta varijable (cjelobrojna, decimalna, tekstualna) i početna vrijednost.

Za varijablu koristimo naredbe na dnu ekrana:

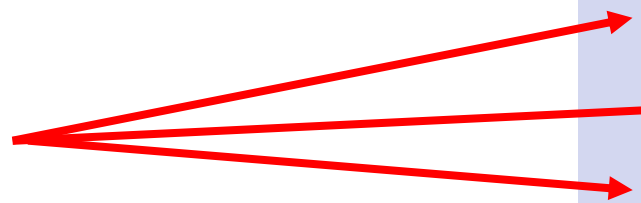




Naredbe za varijable:



Naredbu **variable...**
koristimo za definiranje
vrste, imena
i početne vrijednosti
varijable:



Insert Variable

preview: **unset** <unset> ← **unset**

is variable: ☒ variable ☐ constant

value type: **unset** ☐ is array

name:

initializer: **unset**

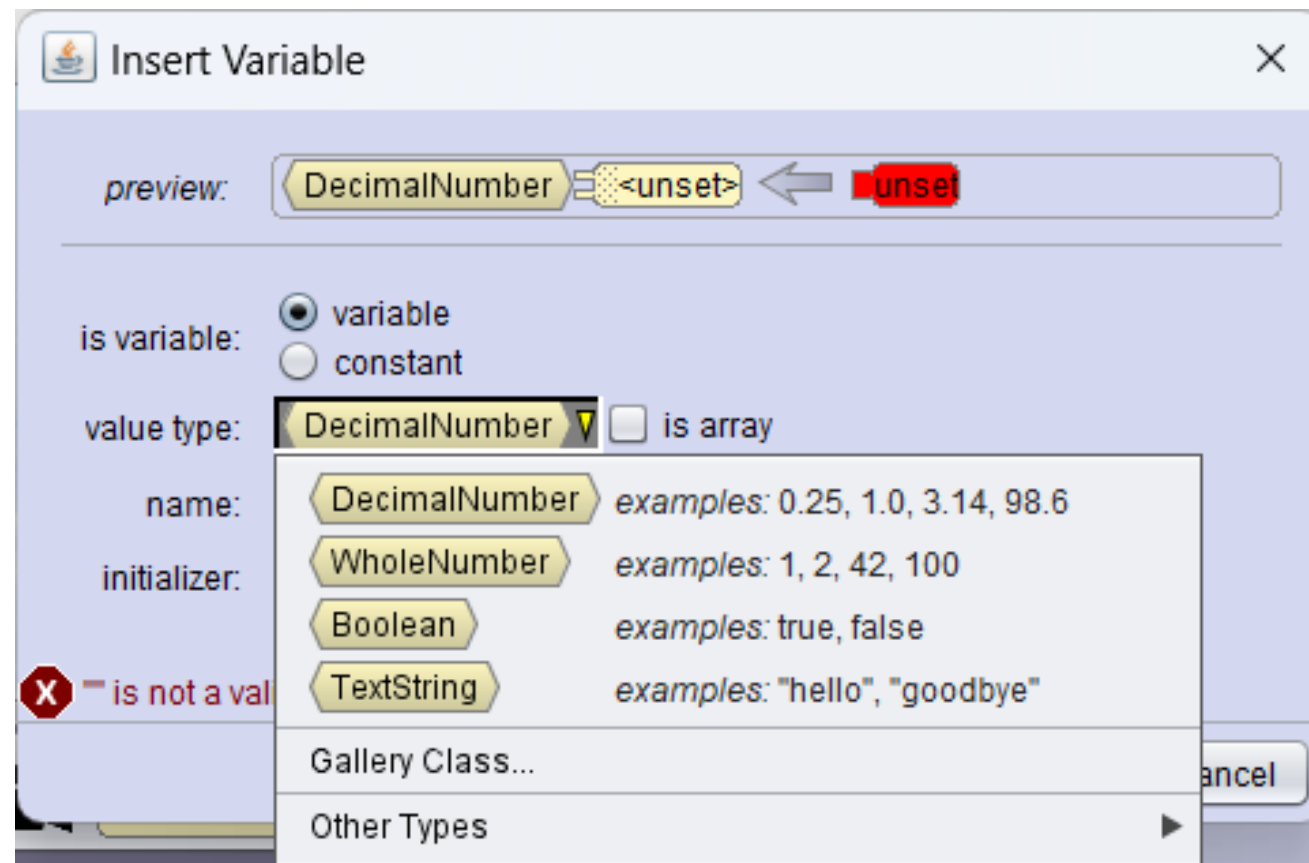
X value type must be set AND "" is not a valid name AND initializer must be set.

OK Cancel

VRSTA VARIJABLE

Vrsta varijable može biti:

- decimalni broj
- cijeli broj
- true/false
- tekst



IME VARIJABLE

Ime varijable mora biti JEDNA RIJEČ i ne smije sadržavati naša slova:

DA

x

ime

moje_ime

primjer_Mojeg_Imena

NE

Žaba

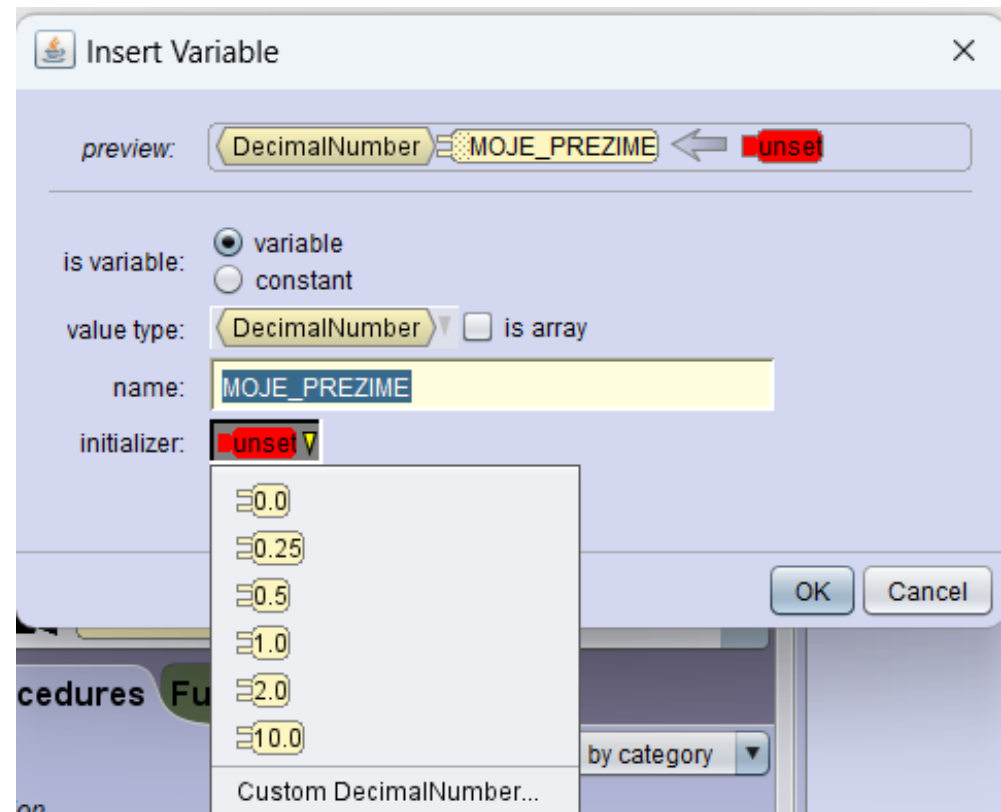
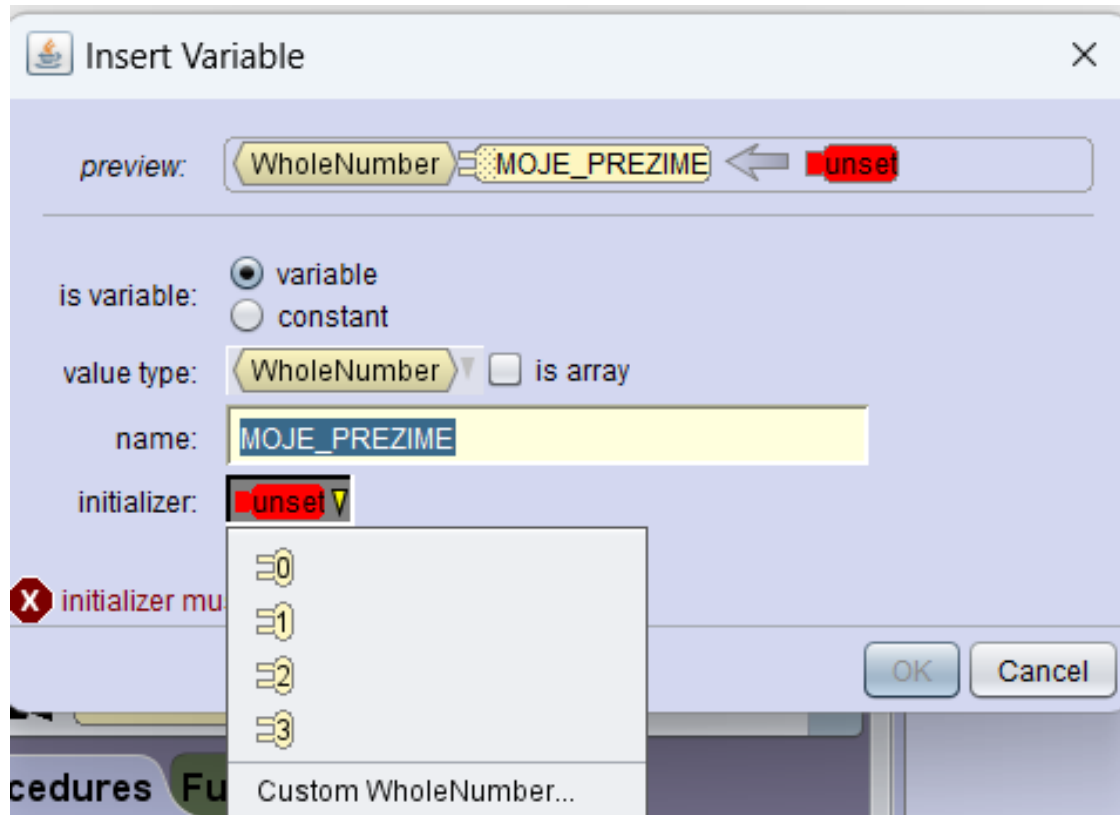
i m e

moje ime

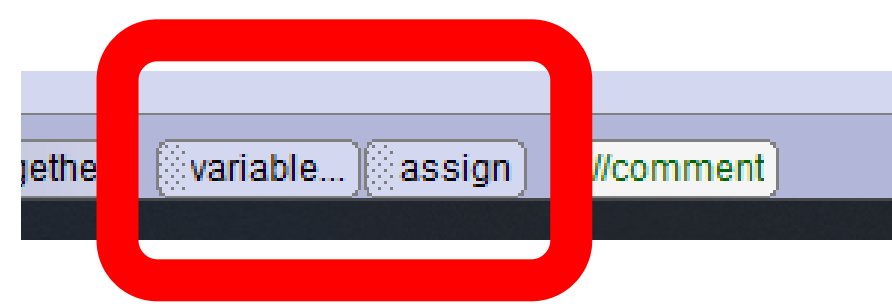
Marko Markic

POČETNA VRIJEDNOST

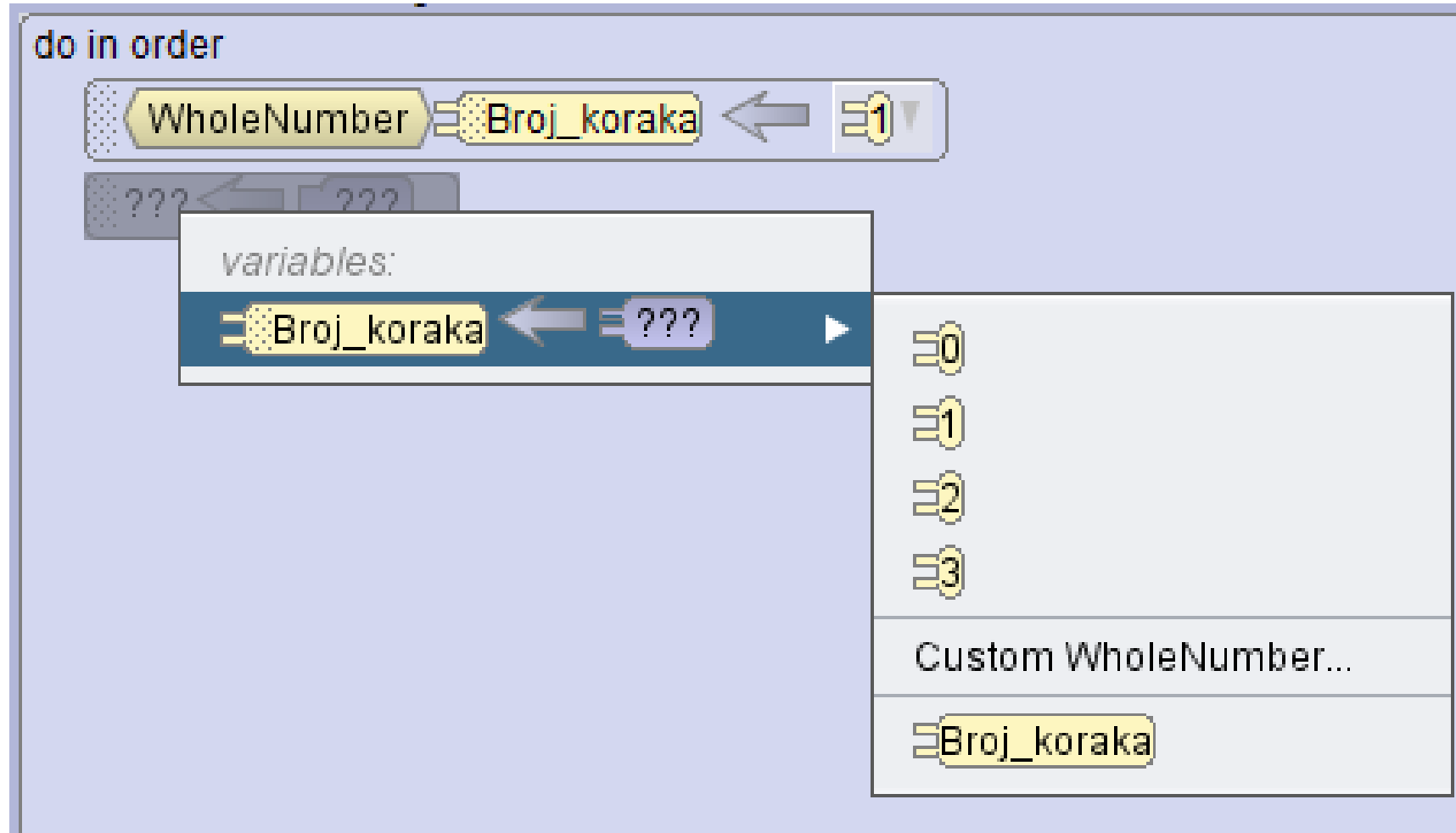
Početna vrijednost ovisi o tome što ste definirali kao vrstu varijable:



Naredbe za varijable:



Naredbu **assign** koristimo da bi u programu promijenili vrijednost varijabli:



Funkcije i varijable

Nekim funkcijama možemo dodijeliti varijablama vrijednosti.

Na primjer, funkcija `getIntegerFromUser` nam omogućava upis broja preko ekrana.

Pogledajmo kroz primjer:

Zeko skače

Odabiremo scenu sa zecom gdje upisujemo koliko će puta skočiti:



Kod

do in order

WholeNumber ← brojSkokova ← 0

this.bunny say "Koliko želiš skokova?" , duration 2.0 add detail

brojSkokova ← this.bunny getIntegerFromUser "Upiši broj skokova."

count up to brojSkokova

this.bunny move UP , 0.5 , duration 0.25 add detail

this.bunny move DOWN , 0.5 , duration 0.25 add detail

loop

Tri zeca skaču, svaki dva skoka više od
susjeda

Skok ← 0 ▾

0 (current value)

0

1

2

3

Random ▶

Decimal to Whole Number ▶

Math ▶

Custom WholeNumber...

Skok

0 + ??? ▶

0 - ??? ▶

0 * ??? ▶

??? + ??? ▶

??? - ??? ▶

??? * ??? ▶

Division, Remainder ▶

absoluteValueOf ??? ▶

min ???, ??? ▶

max ???, ??? ▶

0 ▶

1 ▶

2 ▶

3 ▶

Custom WholeNumber... ▶

Skok ▶

0

1

2

3

Custom WholeNumber...

Skok

do in order

WholeNumber → skok ← 0

skok ← this.bunny → getIntegerFromUser "Koliko želiš skokova?"

count up to skok

this.bunny → move UP, 0.5 → add detail

this.bunny → move DOWN, 0.5 → add detail

loop

skok ← skok + 2

count up to skok

this.bunny2 → move UP, 0.5 → add detail

this.bunny2 → move DOWN, 0.5 → add detail

loop

skok ← skok + 2

count up to skok

this.bunny3 → move UP, 0.5 → add detail

this.bunny3 → move DOWN, 0.5 → add detail

loop

do in order

WholeNumber \Rightarrow brojSkokova \leftarrow \Rightarrow 0

this.bunny **say** "Koliko želiš da ja puta skočim?" , duration \Rightarrow 2.0 add detail

\Rightarrow brojSkokova \leftarrow \Rightarrow this.bunny **getIntegerFromUser** "Koliko želiš skokova?"

count up to \Rightarrow brojSkokova

this.bunny **move** UP , \Rightarrow 0.5 , duration \Rightarrow 0.25 add detail

this.bunny **move** DOWN , \Rightarrow 0.5 , duration \Rightarrow 0.25 add detail

loop

count up to \Rightarrow brojSkokova + \Rightarrow 2

this.bunny2 **move** UP , \Rightarrow 0.5 , duration \Rightarrow 0.25 add detail

this.bunny2 **move** DOWN , \Rightarrow 0.5 , duration \Rightarrow 0.25 add detail

loop

count up to \Rightarrow brojSkokova + \Rightarrow 4

this.bunny3 **move** UP , \Rightarrow 0.5 , duration \Rightarrow 0.25 add detail

this.bunny3 **move** DOWN , \Rightarrow 0.5 , duration \Rightarrow 0.25 add detail

loop



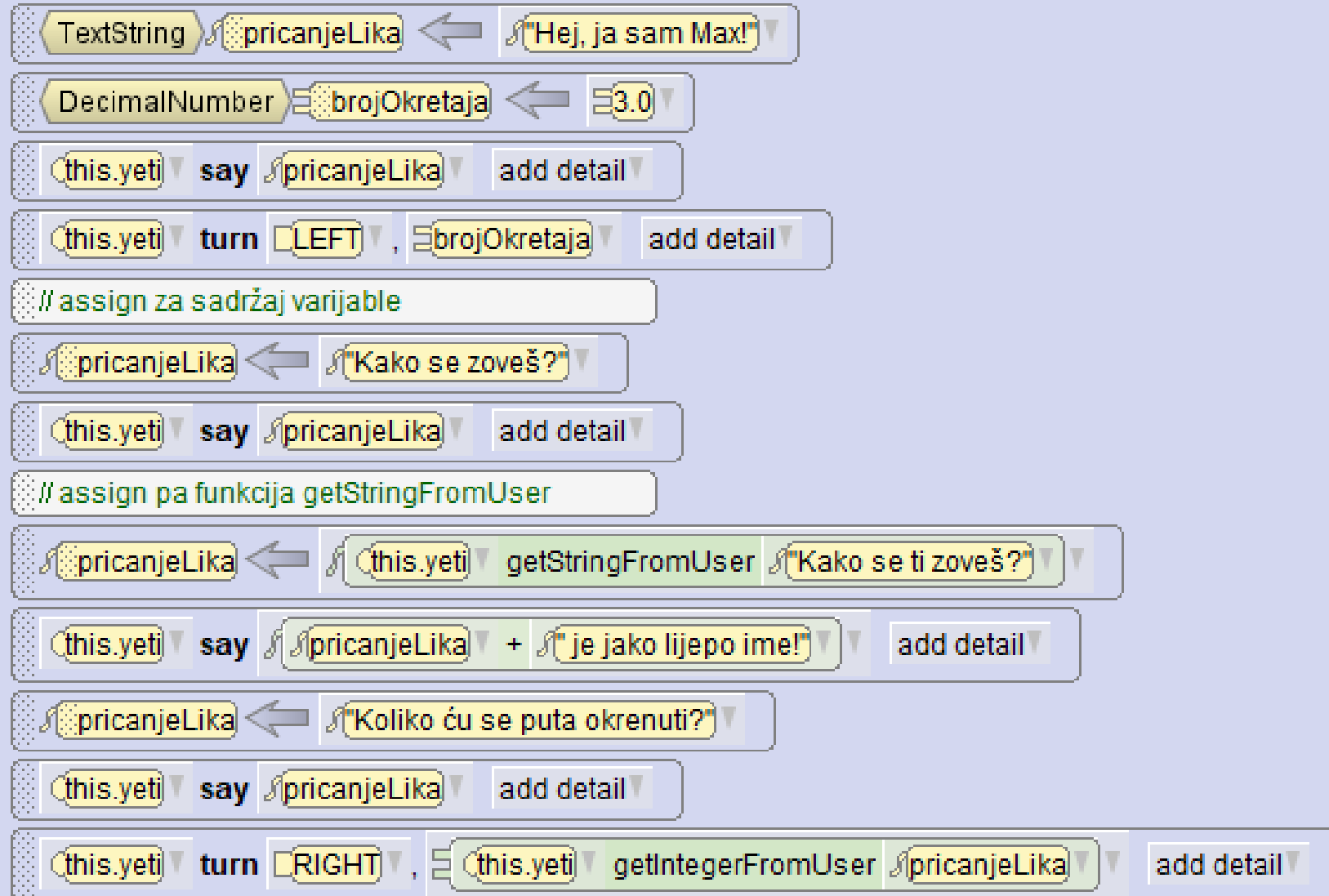
Yeti i varijabla

Zadatak:

1. Na početku se Yeti predstavlja svojim imenom.
2. Zavrti se tri puta oko sebe.
3. Postavi pitanje „Kako se ti zoveš?”
4. Kaže da je upisano ime jako lijepo.
5. Pita „Koliko želiš okretaja?”
6. Zavrti se toliko puta koliko je upisano.

Kod

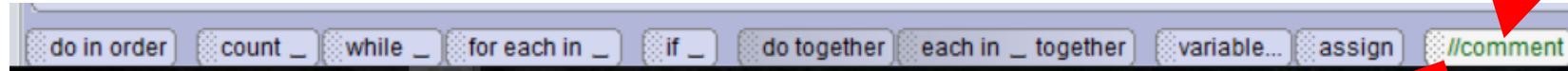
do in order



Umetanje komentara



Za opis programa možemo koristiti komentare koji opisuju što u programu slijedi



umećemo povlačenjem



Komentari ne utječu na rad programa i mogu se umetnuti u bilo koje mjesto u programu!

declare procedure myFirstMethod

do in order

// Definira se vrijednost tekst varijable

pricanjeLika ← "Hej, ja sam Max!"

// Definira se vrijednost cjelobrojne varijable

brojOkretaja ← 3

// Jeti priča tekst iz tekstualne varijable

this.yeti say pricanjeLika add detail

// Jeti se okreće za broj okretaja spremljen u cjelobrojnoj varijabli

this.yeti turn LEFT, brojOkretaja add detail

// Vrijednost tekst varijable promijenimo

pricanjeLika ← "Kako se ti zoveš?"

// Jeti govori novi tekst

this.yeti say pricanjeLika add detail

// Jeti pita Kako se zoveš i odgovor se sprema u varijablu pričanje

pricanjeLika ← this.yeti getStringFromUser "Kako se ti zoveš?"

// Jeti kaže da je upisano ime jako lijepo

this.yeti say pricanjeLika + "... je jako lijepo ime!" add detail

// Mijenjamo vrijednost varijable za pričanje

pricanjeLika ← "Koliko puta želiš da se okrenem?"

// Jeti kaže novi sadržaj varijable

this.yeti say pricanjeLika add detail

// Jeti se okrene u desno onoliko puta koliko upišemo

this.yeti turn RIGHT, this.yeti getIntegerFromUser pricanjeLika add detail

Napravite sami Yetija
koji se okreće oko sebe
onoliko puta koliko upišete

do in order

WholeNumber = brojOkretaja ← 0

brojOkretaja ← this.yeti.getIntegerFromUser "Koliko okreta želiš?"

count up to brojOkretaja

this.yeti turn LEFT, 1.0 add detail

loop

Dodajte mu još dvojicu sa
strane koji se vrte po redu i
onda svi zajedno.

declare procedure myFirstMethod

do in order

WholeNumber → brojOkretaja ← 0

brojOkretaja ← this.yeti → getWholeNumberFromUser "Koliko okretaja želiš?"

count up to brojOkretaja

this.yeti → turn LEFT, 1.0 → add detail

loop

count up to brojOkretaja

this.yeti2 → turn LEFT, 1.0 → add detail

loop

count up to brojOkretaja

this.yetiBaby → turn LEFT, 1.0 → add detail

loop

count up to brojOkretaja

do together

this.yetiBaby → turn LEFT, 1.0 → add detail

this.yeti2 → turn LEFT, 1.0 → add detail

this.yeti → turn LEFT, 1.0 → add detail

loop

Vaš je zadatak sljedeći:

1. Umetni Orcu na scenu.
2. Neka se predstavi i pita vas za ime (varijabla!).
3. Neka komentira vaše ime. (imaš lijepo ime ili tako nešto)
4. Dok priča otvara i zatvara usta (getMouth FORWARD 0.125)
5. Pita vas koliko puta će se okrenuti.
6. Kad mu kažete, to i napravi.

Kod

declare procedure myFirstMethod

do in order



do in order

TextString \rightarrow prica \leftarrow "Dobar dan, ja sam Šark!"

DecimalNumber \rightarrow okret \leftarrow 2.0

this.orca \rightarrow getMouth \rightarrow turn FORWARD, 0.125 add detail

this.orca \rightarrow say prica add detail

this.orca \rightarrow getMouth \rightarrow turn BACKWARD, 0.125 add detail

this.orca \rightarrow turn FORWARD, okret add detail

prica \leftarrow "Kako se ti zoveš?"

this.orca \rightarrow getMouth \rightarrow turn FORWARD, 0.125 add detail

this.orca \rightarrow say prica add detail

this.orca \rightarrow getMouth \rightarrow turn BACKWARD, 0.125 add detail

prica \leftarrow this.orca \rightarrow getStringFromUser "Kako se ti zoveš?"

this.orca \rightarrow getMouth \rightarrow turn FORWARD, 0.125 add detail

this.orca \rightarrow say prica + "je jako lijepo ime!" add detail

this.orca \rightarrow getMouth \rightarrow turn BACKWARD, 0.125 add detail

prica \leftarrow "Koliko okreta želiš?"

this.orca \rightarrow getMouth \rightarrow turn FORWARD, 0.125 add detail

this.orca \rightarrow say prica add detail

this.orca \rightarrow getMouth \rightarrow turn BACKWARD, 0.125 add detail

this.orca \rightarrow turn LEFT, this.orca \rightarrow getIntegerFromUser "Koliko okreta želiš?", duration 5.0 add detail

Procedure i funkcije

(metode)

Procedura je dio programskog koda koji definira kako bi se objekt trebao ponašati.

Funkcija je dio programskog koda koji nadopunjava odabranu proceduru (namješta i određuje vrijednost).

Otvorite vaš program od prošlog puta
Orca priča
pa ga dopunite
otvaranjem i zatvaranjem usta (ako niste)

do in order

TextString \leftarrow prica \leftarrow "Dobar dan, ja sam Šark!"

DecimalNumber \leftarrow okret \leftarrow 2.0

this.orca getMouth turn FORWARD, 0.125 add detail

this.orca say prica add detail

this.orca getMouth turn BACKWARD, 0.125 add detail

this.orca turn FORWARD, okret add detail

prica \leftarrow "Kako se ti zoveš?"

this.orca getMouth turn FORWARD, 0.125 add detail

this.orca say prica add detail

this.orca getMouth turn BACKWARD, 0.125 add detail

prica \leftarrow this.orca getStringFromUser "Kako se ti zoveš?"

this.orca getMouth turn FORWARD, 0.125 add detail

this.orca say prica + "je jako lijepo ime!" add detail

this.orca getMouth turn BACKWARD, 0.125 add detail

prica \leftarrow "Koliko okreta želiš?"

this.orca getMouth turn FORWARD, 0.125 add detail

this.orca say prica add detail

this.orca getMouth turn BACKWARD, 0.125 add detail

this.orca turn LEFT, this.orca getIntegerFromUser "Koliko okreta želiš?", duration 5.0 add detail

prica \leftarrow prica + "je jako lijepo ime!"

this.orca getMouth turn FORWARD, 0.125 add detail

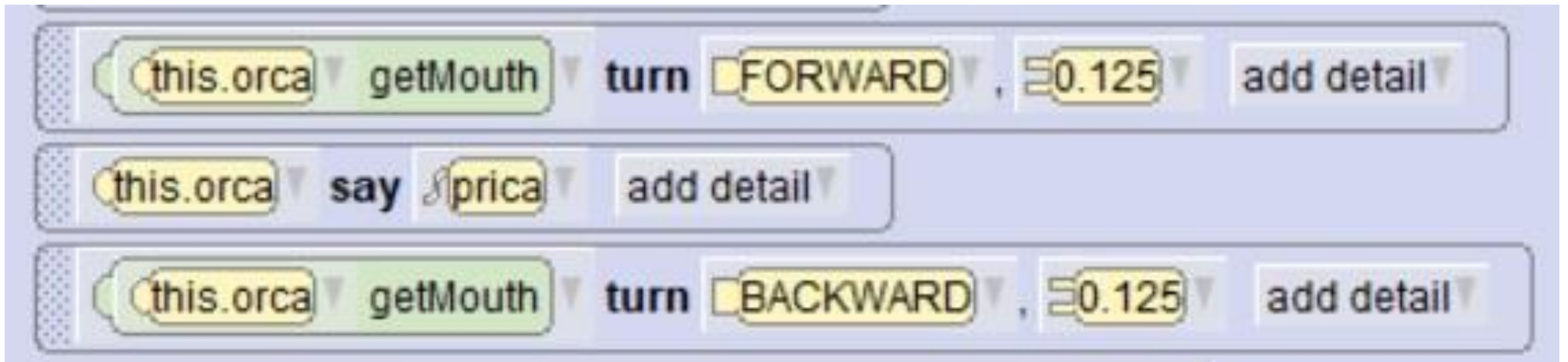
this.orca say prica add detail

this.orca getMouth turn BACKWARD, 0.125 add detail

Otvaranje usta, pričanje i zatvaranje usta se PONAVLJA!

Napravit ćemo PROCEDURU koja će to raditi, pa ćemo samo na mjestu gdje ona priča, pozvati tu proceduru!!!

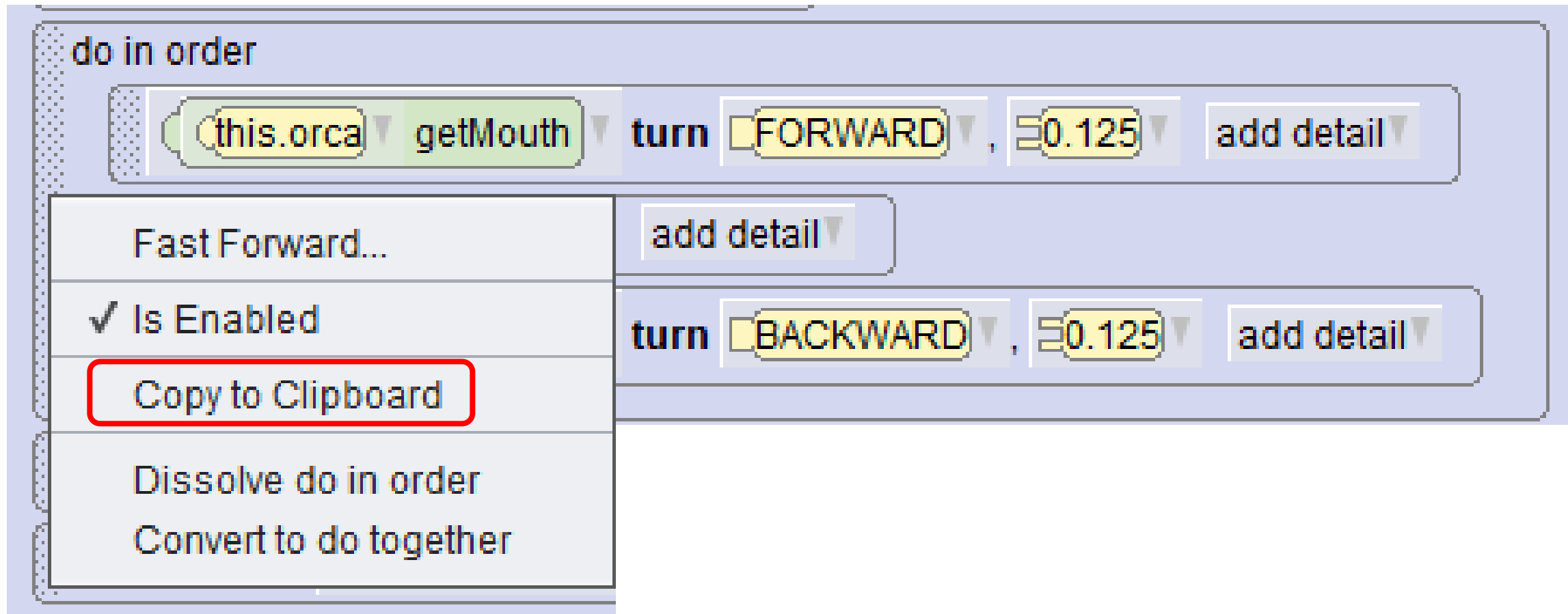
Priča:



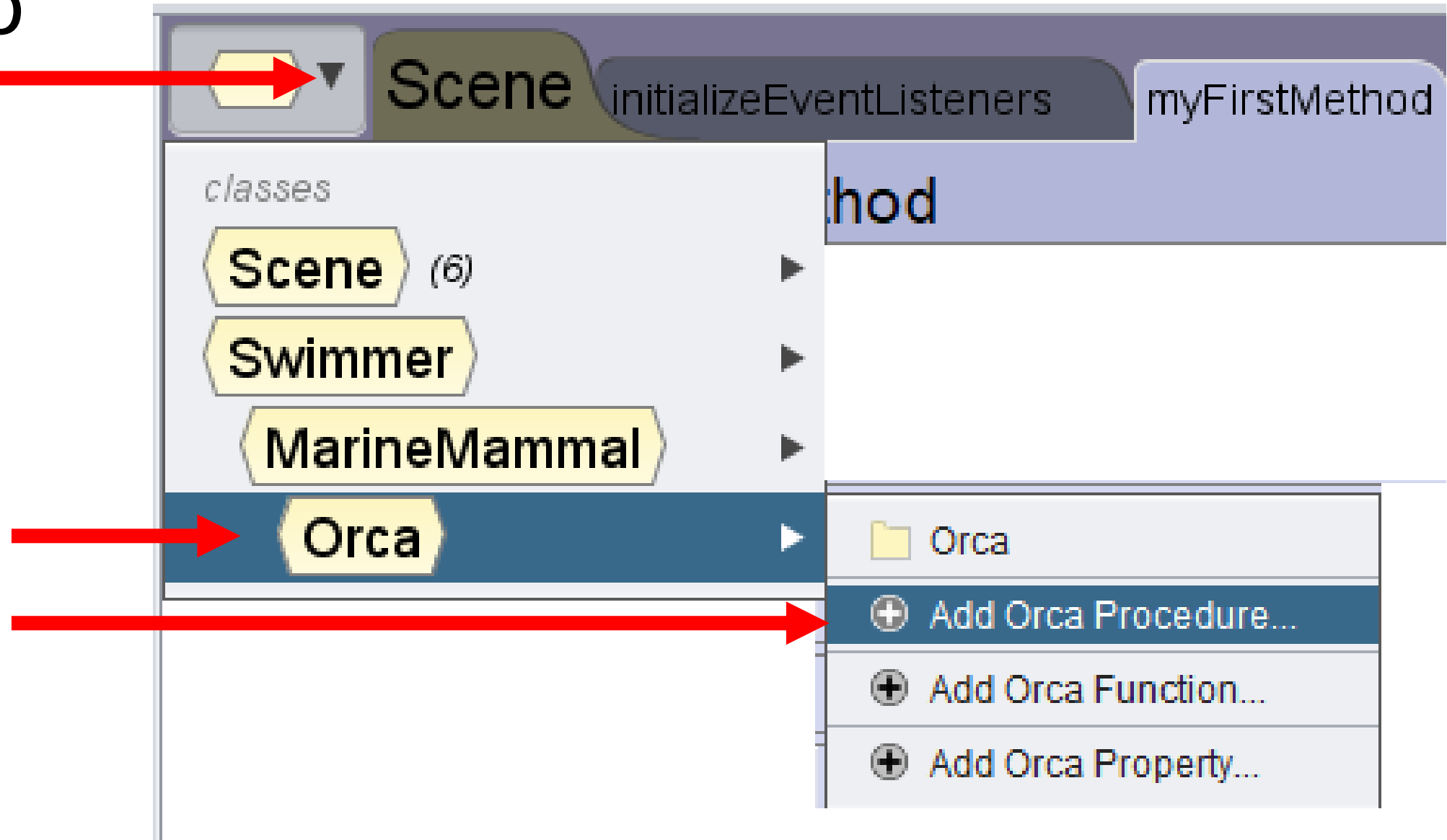
KORACI IZRADE PROCEDURE

Koraci:

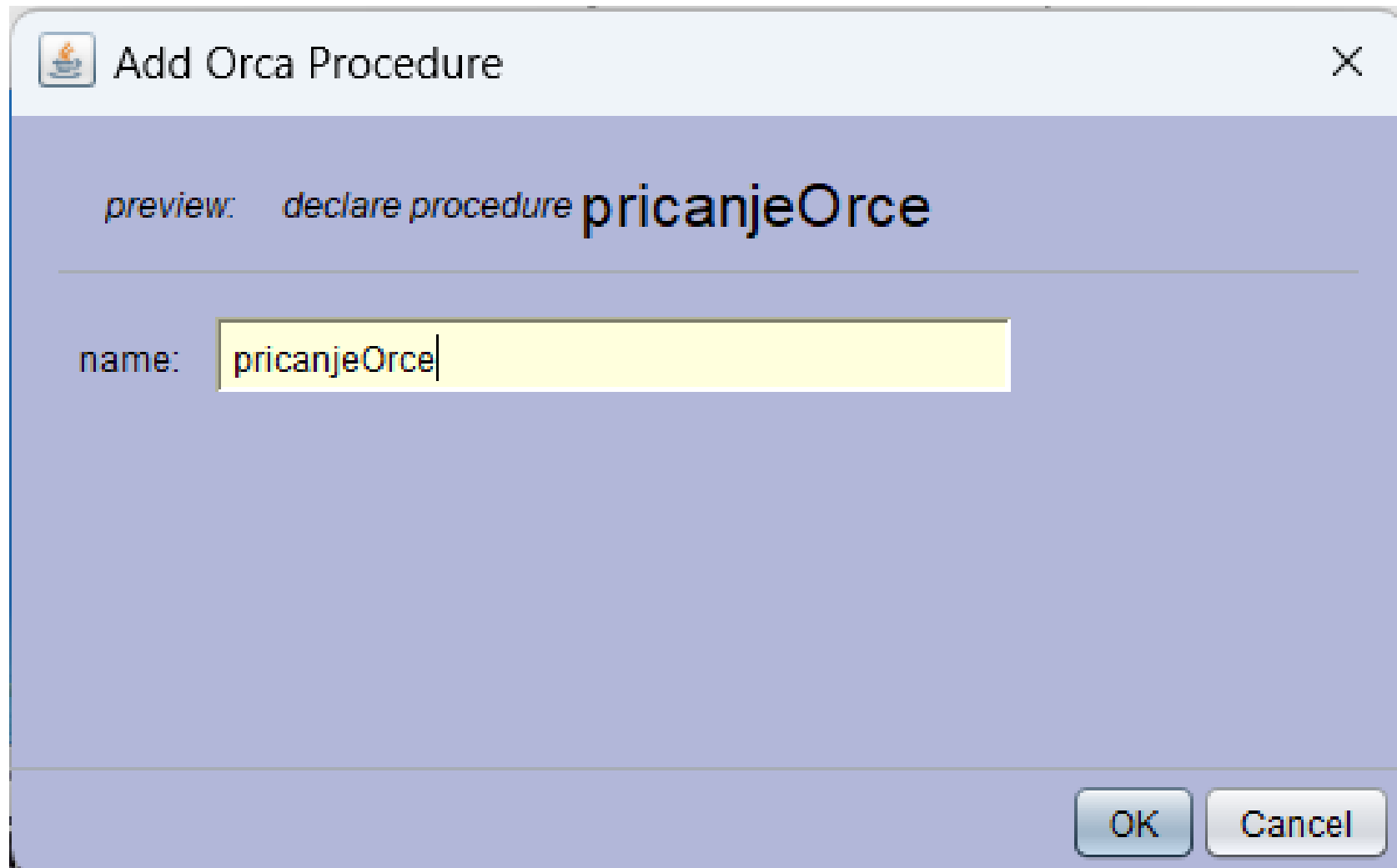
Kopiramo naš dio programa u Clipboard (desni klik na točkice):




Kliknemo
na



Upišemo ime pricanjeOrce



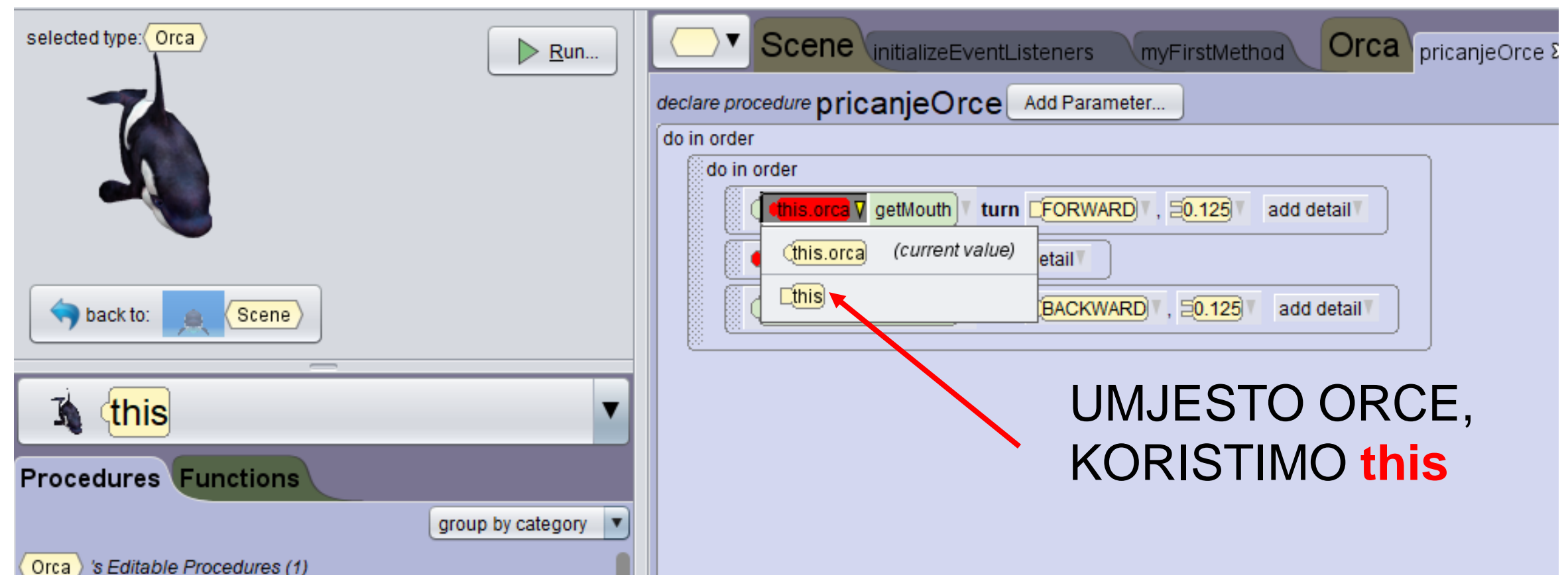
 Add Orca Procedure ✕

preview: `declare procedure` **pricanjeOrce**

name:

OK Cancel

Kopiramo:



The screenshot shows a programming interface with a 3D orca model on the left. The 'selected type' is 'Orca'. Below the model is a 'back to:' button with a 'Scene' button. A dropdown menu shows 'this' as the selected object. The main area displays a procedure named 'pricanjeOrce' with a 'do in order' block containing three steps: 'this.orca' (highlighted in red) calling 'getMouth', 'turn FORWARD' by 0.125, and 'add detail'. A red arrow points from the text 'UMJESTO ORCE, KORISTIMO this' to the 'this' object in the procedure block. The interface also shows tabs for 'Scene', 'initializeEventListeners', 'myFirstMethod', and 'Orca'.

selected type: Orca

Run...

back to: Scene

this

Procedures Functions

group by category

Orca's Editable Procedures (1)

Scene initializeEventListeners myFirstMethod Orca pricanjeOrce

declare procedure pricanjeOrce Add Parameter...

do in order

do in order

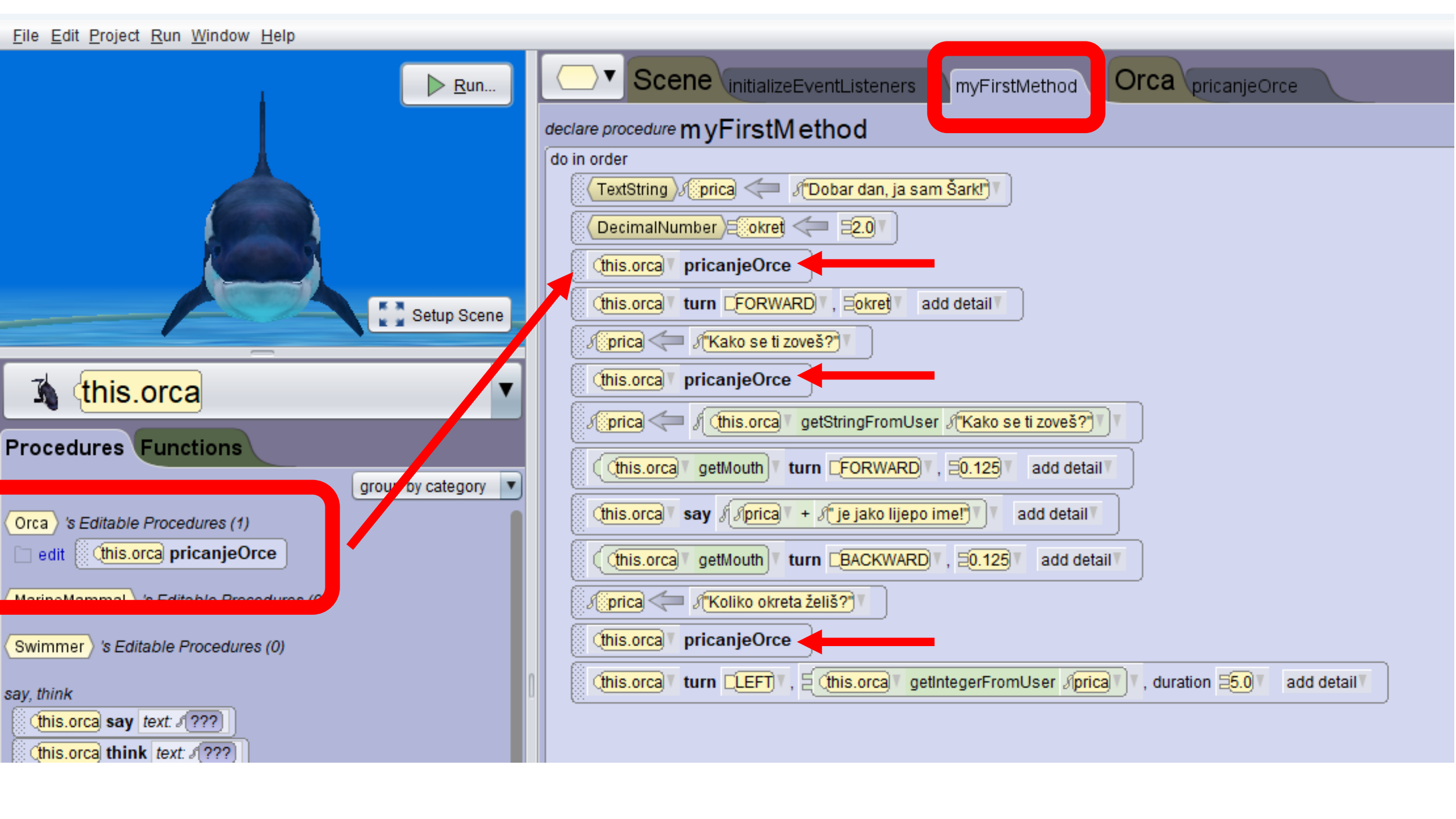
this.orca getMouth turn FORWARD 0.125 add detail

this.orca (current value) detail


this BACKWARD 0.125 add detail

UMJESTO ORCE, KORISTIMO **this**

Ili napišemo proceduru u taj prozor.



FileEditProjectRunWindowHelp



Run...

Setup Scene

this.orca

ProceduresFunctions

Orca's Editable Procedures (1)

editthis.orca pricanjeOrce

MarineMammal's Editable Procedures (0)

Swimmer's Editable Procedures (0)

say, think

this.orca say text: ???

this.orca think text: ???

SceneinitializeEventListenersmyFirstMethodOrca pricanjeOrce

declare procedure myFirstMethod

do in order

TextStringprica ← "Dobar dan, ja sam Šark!"

DecimalNumberokret ← 2.0

this.orca pricanjeOrce

this.orca turn FORWARD, okret add detail

prica ← "Kako se ti zoveš?"

this.orca pricanjeOrce

prica ← this.orca getStringFromUser "Kako se ti zoveš?"

this.orca getMouth turn FORWARD, 0.125 add detail

this.orca say prica + "je jako lijepo ime!" add detail

this.orca getMouth turn BACKWARD, 0.125 add detail

prica ← "Koliko okreta zelis?"

this.orca pricanjeOrce

this.orca turn LEFT, this.orca getIntegerFromUser prica, duration 5.0 add detail

DA BI MOGLI
ZAMIJENITI I DIO
GDJE KAŽEMO „je jako
lijepo ime“, taj dio
pomaknemo gore:

do in order

TextString prica ← "Dobar dan, ja sam Šark!"

DecimalNumber okret ← 2.0

this.orca pricanjeOrce

this.orca turn FORWARD, okret add detail

prica ← "Kako se ti zoveš?"

this.orca pricanjeOrce

prica ← this.orca getStringFromUser "Kako se ti zoveš?"

prica ← prica + "je jako lijepo ime!"

this.orca pricanjeOrce

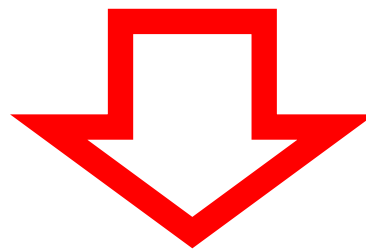
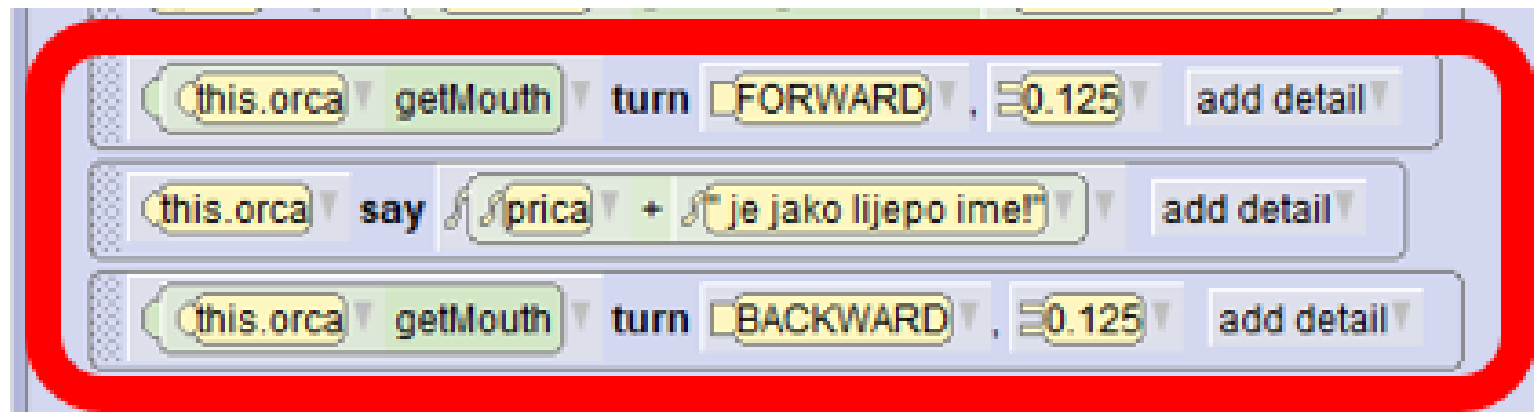
prica ← "Koliko okreta želiš?"

this.orca pricanjeOrce

this.orca turn LEFT, this.orca getIntegerFromUser prica, duration 5.0 add detail

nova naredba glasi:

**sada i ovdje
možemo upotrijebiti
proceduru**



Pogledajmo program

Ples gladnog morskog psa

Izradimo ga sami!

Odaberemo za pozadinu
morsko dno

Sea floor

Napravimo scenu:

blueTang, clownFish, pajamaFish, carp, shark



shark je na početku na $x=0.0$ $y=-2.00$ $z=0.0$

Ribe namjestite na pozicije:

blueTang **x=5.8 y=4.00 z=3.0**

clownFish **x=5.11 y=4.00 z=15.1**

pajamaFish **x=-6.75 y=4.00 z=10.8**

carp **x=-3.42 y=4.00 z=17.2**

do in order

this.shark move **UP**, **6.5**, duration **2.0** add detail

do in order

this.shark say "Uh, što sam gladan!", duration **2.0**, bubbleFillColor **WHITE** add detail

this.shark turn **RIGHT**, **2.0** add detail

this.shark roll **LEFT**, **1.0** add detail

do in order

this.shark turnToFace **this.carp** add detail

this.shark move **FORWARD**, $\text{this.shark.getDistanceTo}(\text{this.carp}) - 0.25$ add detail

this.carp setOpacity **0.0** add detail

do in order

this.shark say "Uh, što sam gladan!", duration **2.0**, bubbleFillColor **WHITE** add detail

this.shark turn **RIGHT**, **2.0** add detail

this.shark roll **LEFT**, **1.0** add detail

do in order

this.shark turnToFace **this.pajamaFish** add detail

this.shark getMouth turn **FORWARD**, **0.125** add detail

this.shark move **FORWARD**, **this.shark** getDistanceTo **this.pajamaFish** - **0.25** add detail

this.pajamaFish setOpacity **0.0** add detail

this.shark getMouth turn **BACKWARD**, **0.125** add detail

do in order

this.shark say "Uh, što sam gladan!", duration **2.0**, bubbleFillColor **WHITE** add detail

this.shark turn **RIGHT**, **2.0** add detail

this.shark roll **LEFT**, **1.0** add detail

do in order

this.shark turnToFace **this.clownFish** add detail

this.shark getMouth turn **FORWARD**, **0.125** add detail

this.shark move **FORWARD**, **this.shark** getDistanceTo **this.clownFish** - **0.5** add detail

this.shark getMouth turn **BACKWARD**, **0.125** add detail

this.clownFish setOpacity **0.0** add detail

do in order

this.shark say "Uh, što sam gladan!" , duration 2.0 , bubbleFillColor WHITE add detail

this.shark turn RIGHT , 2.0 add detail

this.shark roll LEFT , 1.0 add detail

do in order

this.shark turnToFace this.blueTang add detail

this.shark getMouth turn FORWARD , 0.125 add detail

this.shark move FORWARD , $\frac{\text{this.shark.getDistanceTo(this.blueTang)}}{2}$ add detail

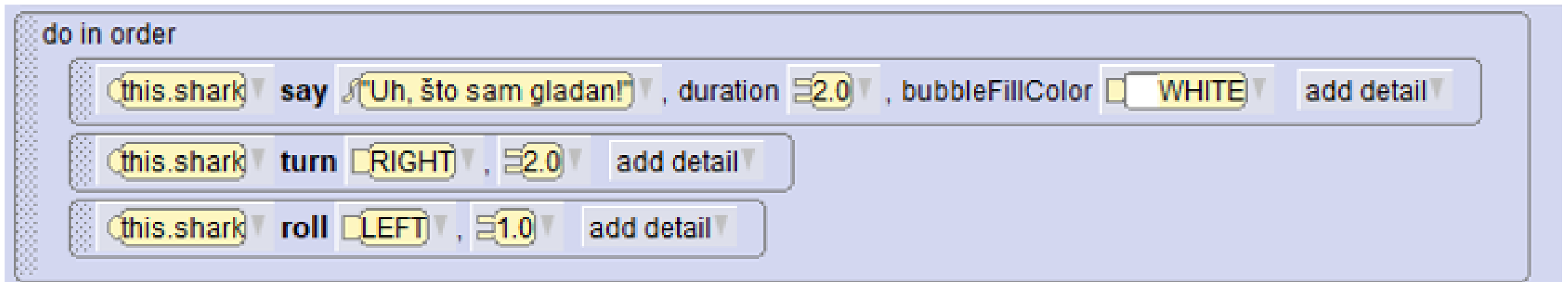
this.shark getMouth turn BACKWARD , 0.125 add detail

this.blueTang setOpacity 0.0 add detail

Ples morskog psa se PONAVLJA!

Napravit ćemo PROCEDURU koja će to raditi, pa ćemo samo na mjestu gdje on pleše, pozvati tu proceduru!!!

Ples:



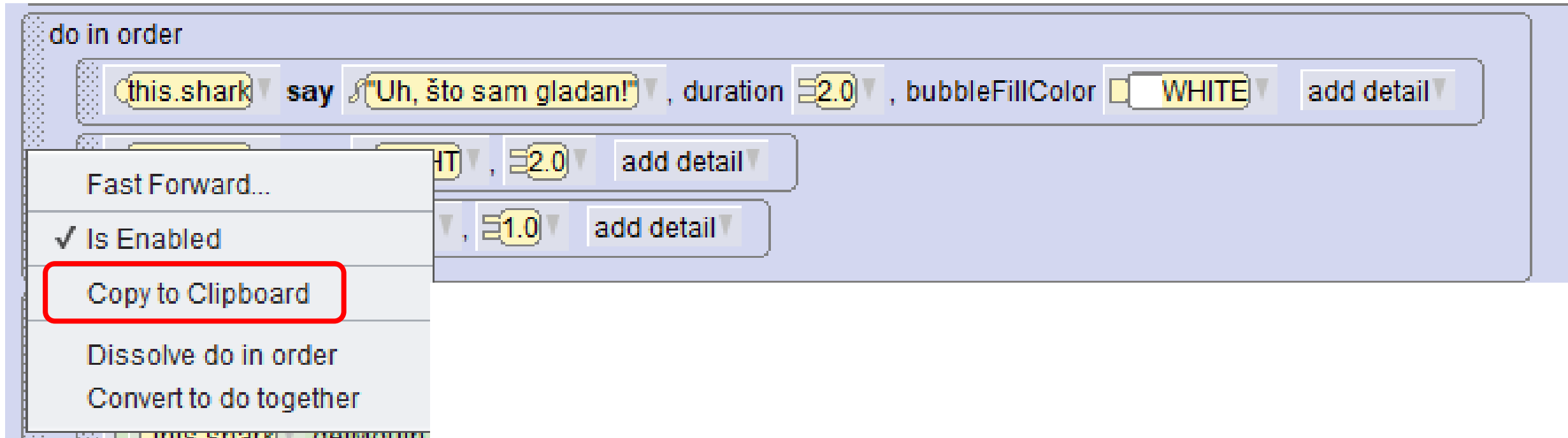
Kako izraditi proceduru?

Naša procedura će se zvati **gladniPles** i pozivat ćemo je po potrebi:

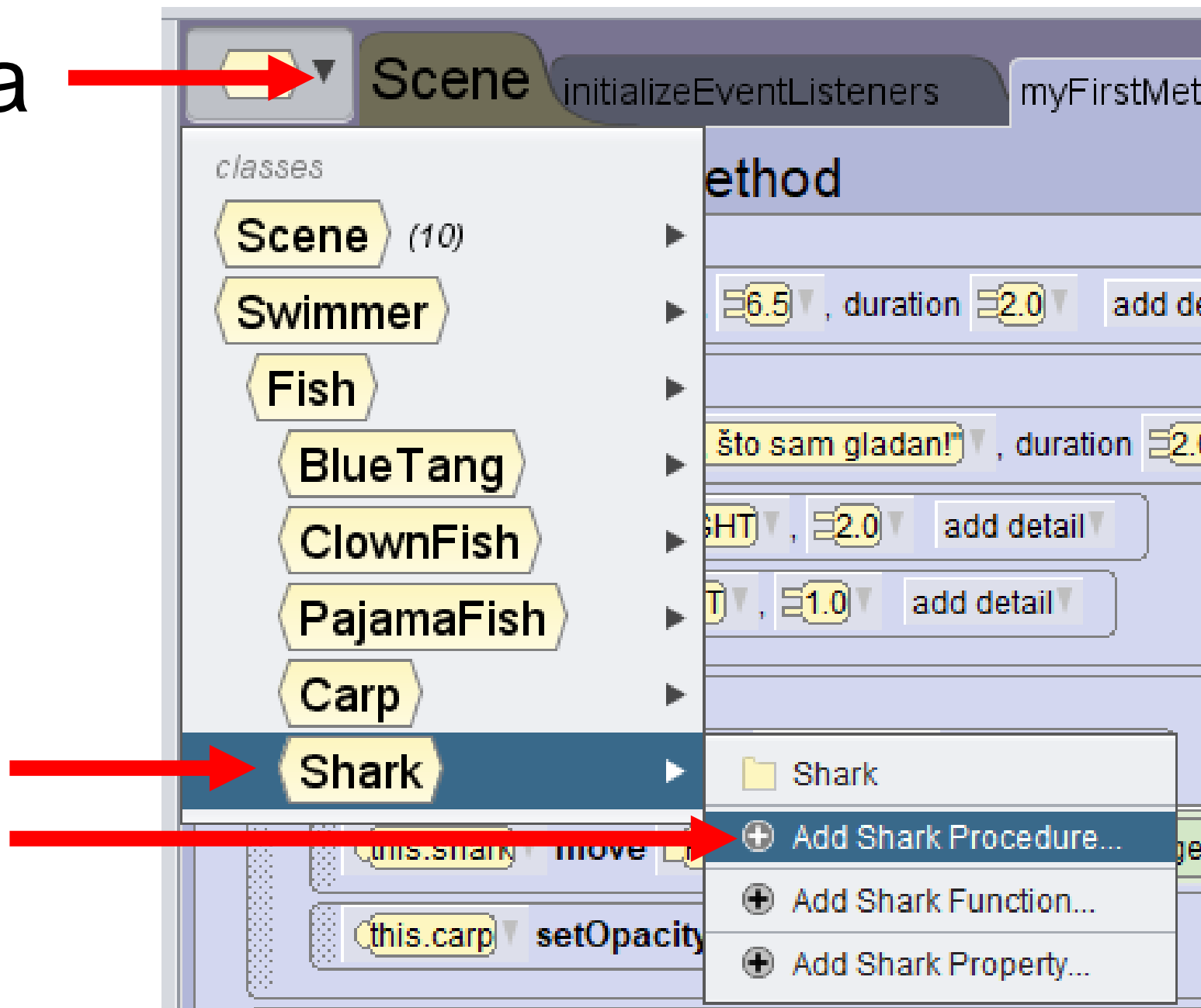


Koraci:

Kopiramo naš dio programa u Clipboard (desni klik na točkice):



Kliknemo na



Upišemo ime gladniPles



The image shows a dialog box titled "Add Shark Procedure" with a close button (X) in the top right corner. Inside the dialog, there is a preview section showing the text *preview: declare procedure* followed by **gladniPles**. Below this, there is a label "name:" followed by a text input field containing the text "gladniPles". At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

Add Shark Procedure

preview: declare procedure **gladniPles**

name: gladniPles

OK Cancel

Napišemo proceduru:

The screenshot shows the Blueprints IDE interface. On the left, a 3D shark model is visible in the 'Scene' tab. Below it, a 'this' object is selected. The 'Procedures' panel on the left lists 'Shark' with '1 Editable Procedure (1)' and 'Fish' with '0 Editable Procedures (0)'. The 'Functions' panel shows 'say, think' and 'position' categories with various actions like 'say', 'think', 'move', 'moveToward', 'moveAwayFrom', 'moveTo', and 'place'. The main workspace shows the 'gladniPles' procedure for the 'Shark' object. The procedure is defined as follows:

```
declare procedure gladniPles
do in order
  do in order
    this say "Uh, što sam gladan!" , duration 2.0 , bubbleFillColor WHITE add detail
    this turn RIGHT , 2.0 add detail
    this roll LEFT , 1.0 add detail
```

UMJESTO
MORSKOG PSA,
KORISTIMO **this**

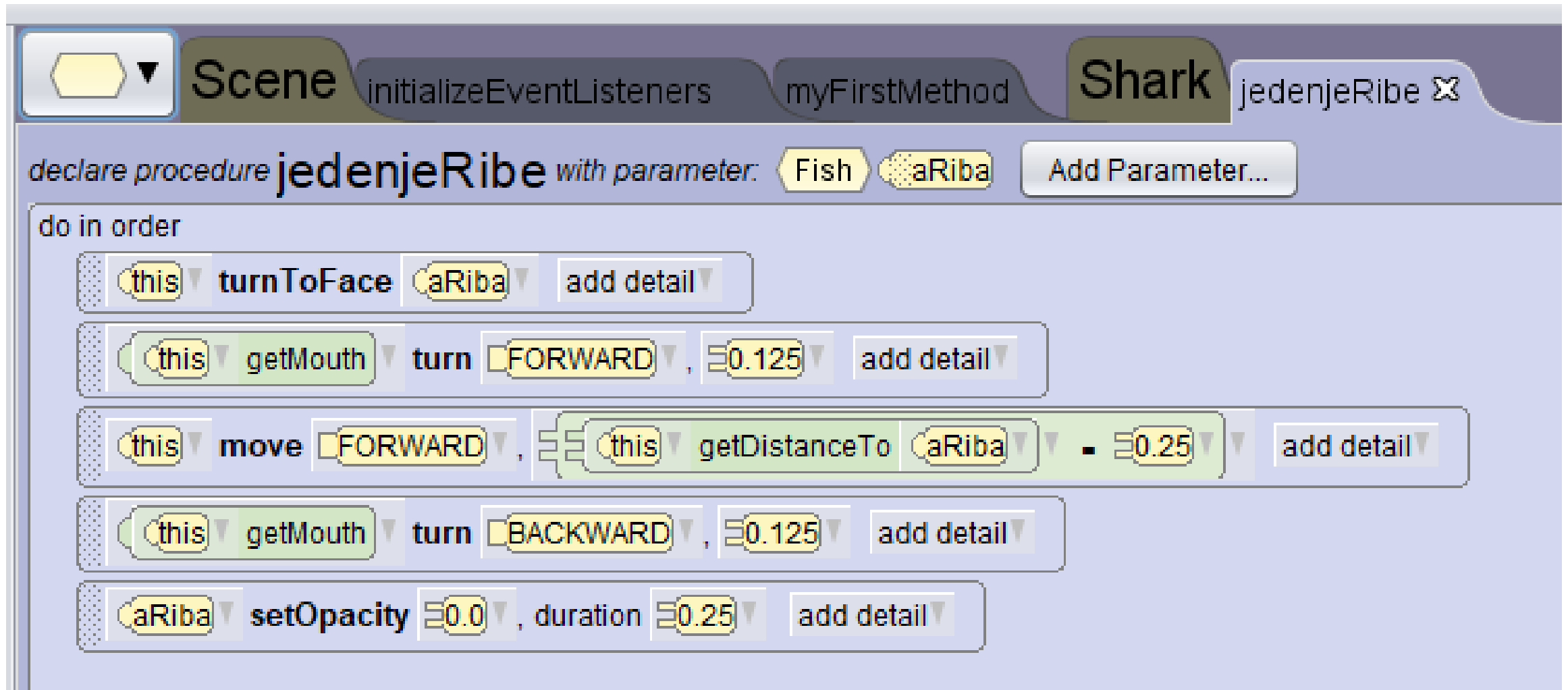
Sad kad odaberemo morskog psa, imamo za odabir proceduru **gladniPles**:

The screenshot displays a programming environment with a stage on the left and a script editor on the right. The stage shows a blue ocean with several fish icons. A 'this.shark' object is selected in the 'Procedures' panel on the left. The script editor shows the 'myFirstMethod' procedure for the shark object, which is currently selected. The procedure is defined as follows:

```
declare procedure myFirstMethod
do in order
  this.shark move UP 6.5, duration 2.0 add detail
  this.shark gladniPles
do in order
  this.shark turnToFace this.carp add detail
  this.shark move FORWARD 0.25, duration 0.25 add detail
  this.carp setOpacity 0.0, duration 0.25 add detail
  this.shark gladniPles
do in order
  this.shark turnToFace this.pajamaFish add detail
  this.shark getMouth turn FORWARD 0.125 add detail
  this.shark move FORWARD 0.25, duration 0.25 add detail
  this.pajamaFish setOpacity 0.0, duration 0.25 add detail
  this.shark getMouth turn BACKWARD 0.125 add detail
  this.shark gladniPles
do in order
```

Red arrows point from the 'gladniPles' procedure in the 'Procedures' panel to the corresponding 'gladniPles' blocks in the script editor.

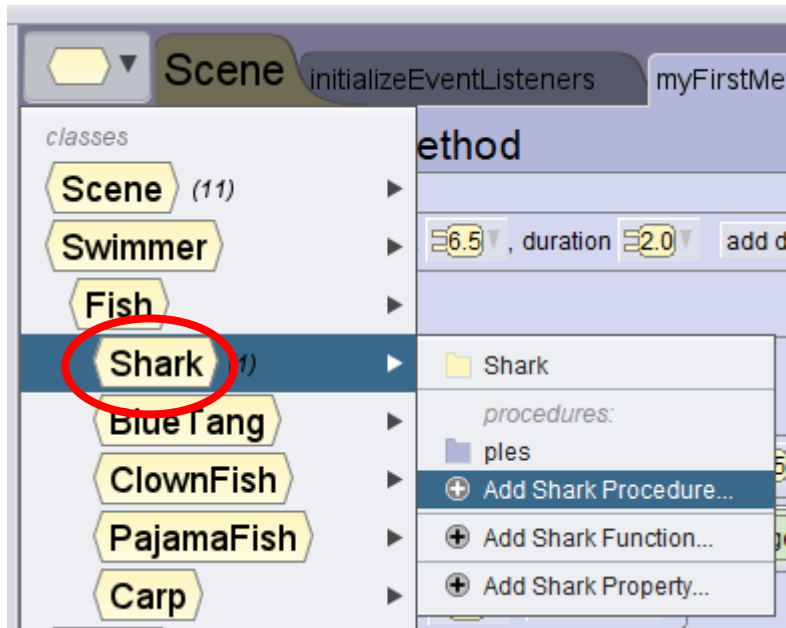
Program se može još pojednostaviti s procedurom u kojoj samo biraš ribu (procedura jedenjeRibe):



The image shows a Scratch code editor window. At the top, there are tabs for 'Scene', 'initializeEventListeners', 'myFirstMethod', 'Shark', and 'jedenjeRibe' (which is currently selected and has a close button). Below the tabs, the code for the 'jedenjeRibe' procedure is displayed. It starts with 'declare procedure jedenjeRibe with parameter: Fish aRiba' and an 'Add Parameter...' button. The procedure body is enclosed in a 'do in order' block and contains five steps, each with an 'add detail' button:

- 1. `this` turnToFace `aRiba`
- 2. `this` getMouth turn FORWARD, 0.125
- 3. `this` move FORWARD, `this` getDistanceTo `aRiba` - 0.25
- 4. `this` getMouth turn BACKWARD, 0.125
- 5. `aRiba` setOpacity 0.0, duration 0.25

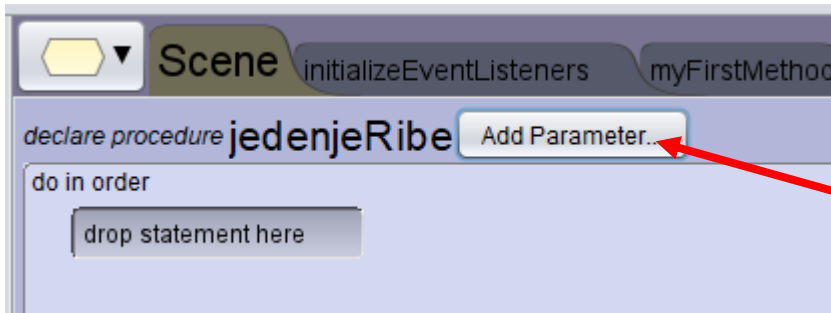
Definicija parametra aRibe



1. dodajemo Shark-u novu proceduru

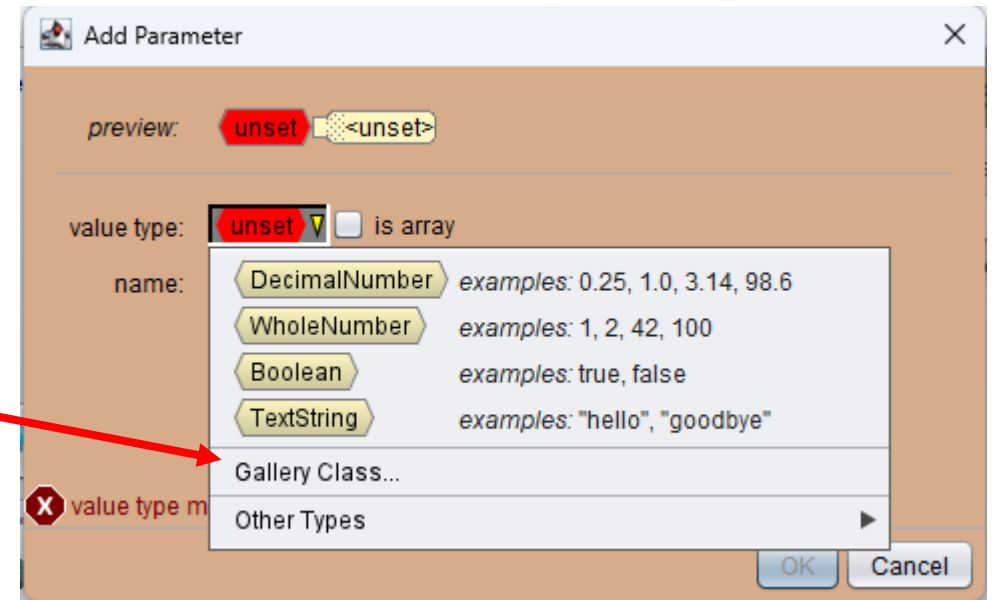
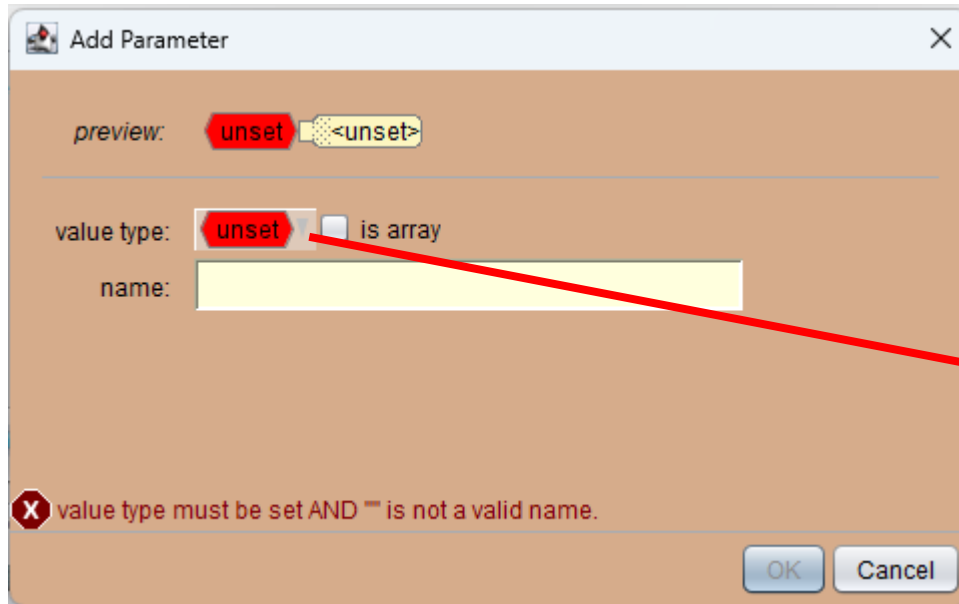


2. nazovemo je **jedenjeRibe**

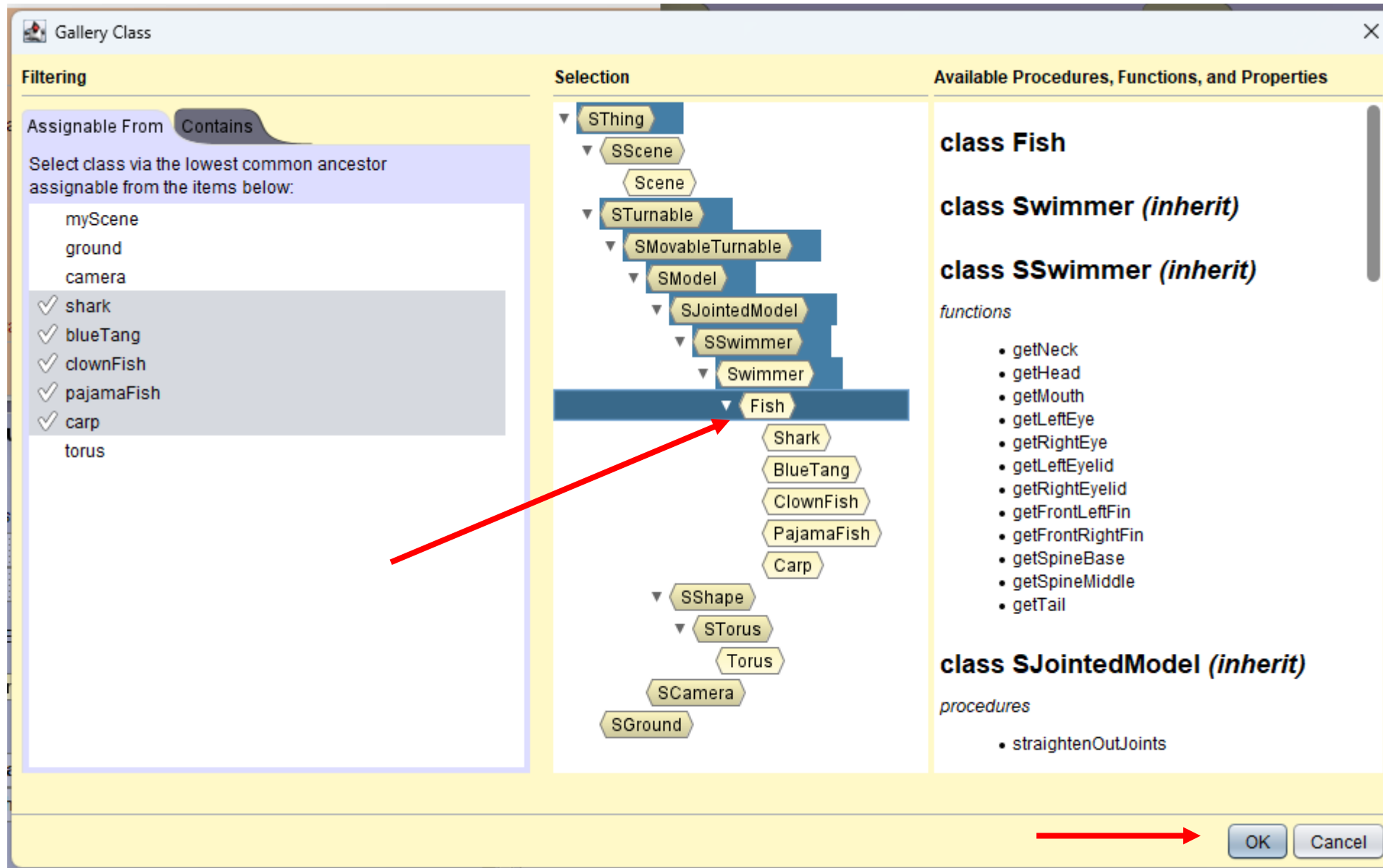


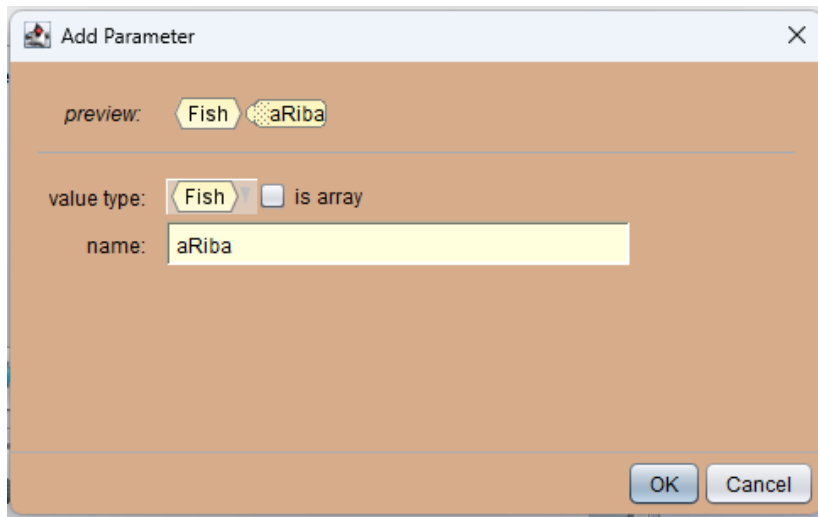
3. dodajemo parametar u proceduru

4. unset stavljam u Gallery Class...

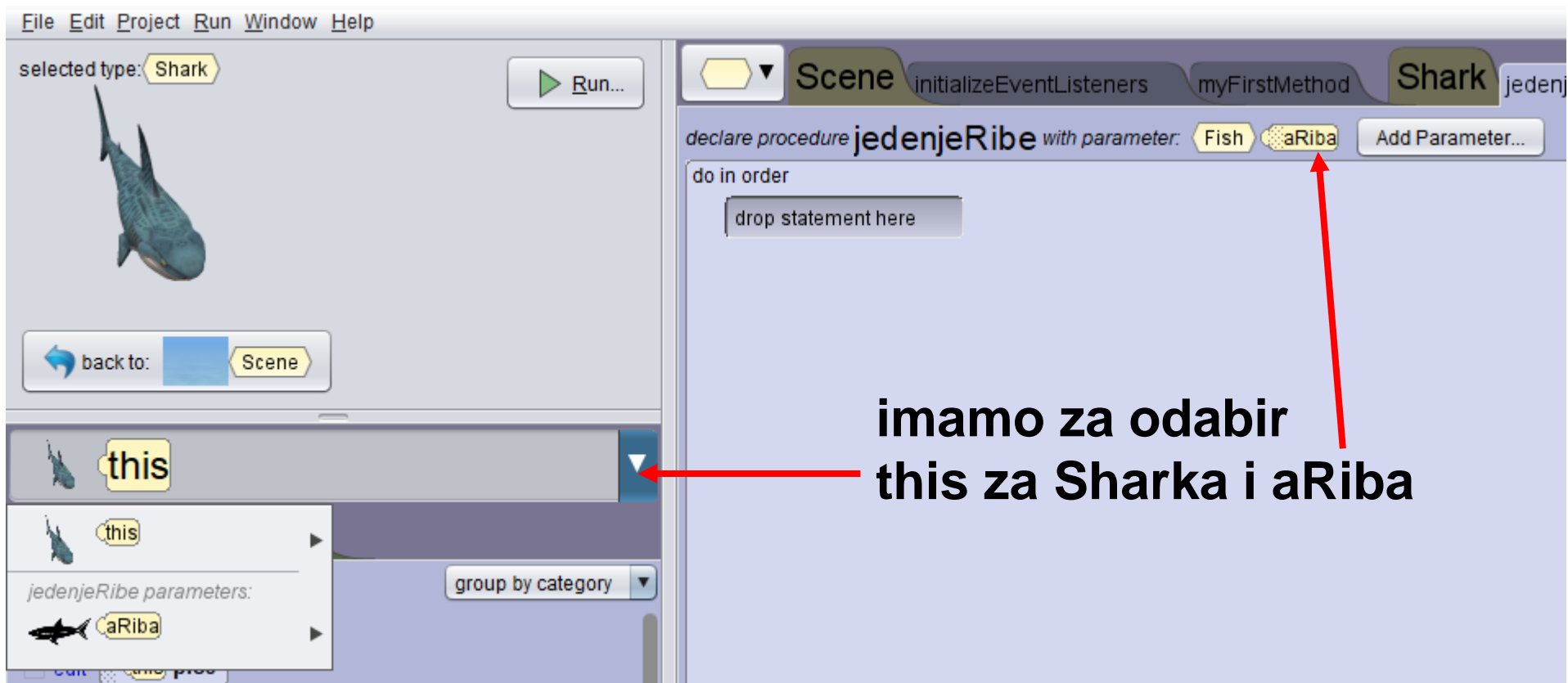


5. odaberemo Fish





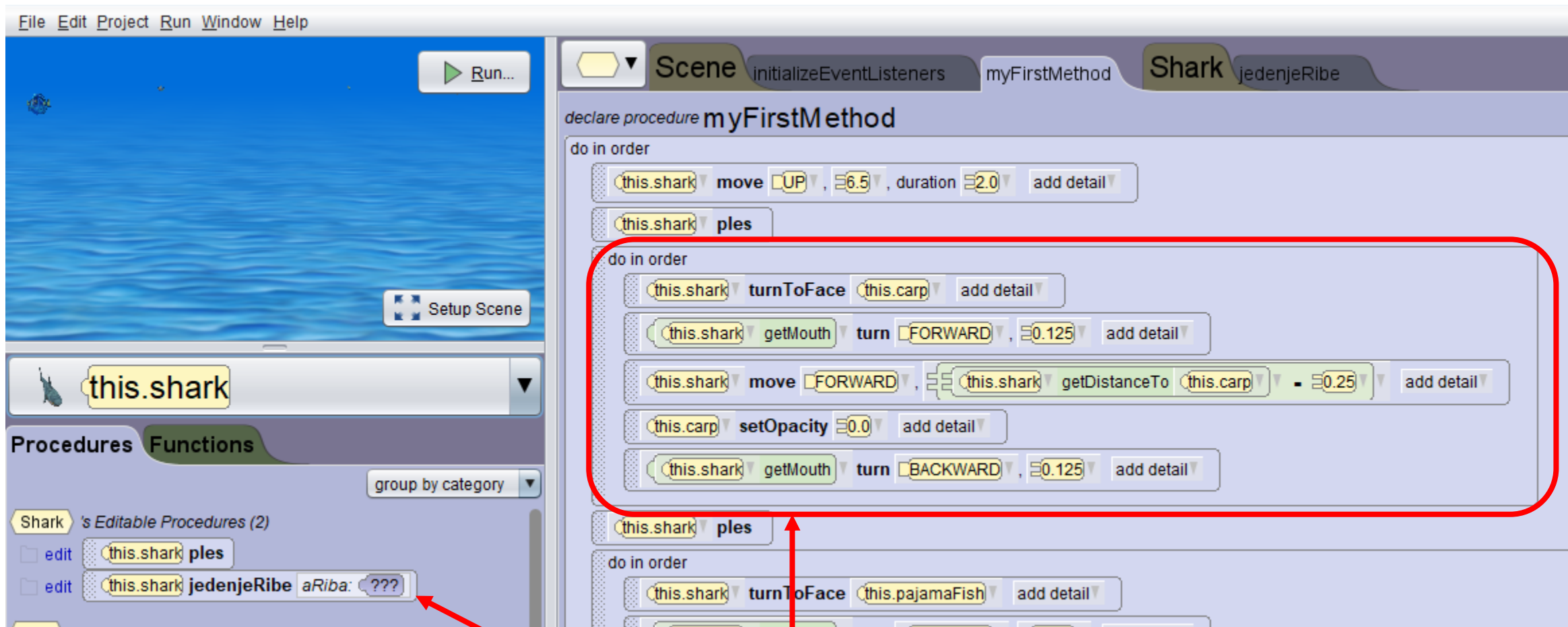
6. parametar nazovemo aRiba



Procedura jedenjeRibe:

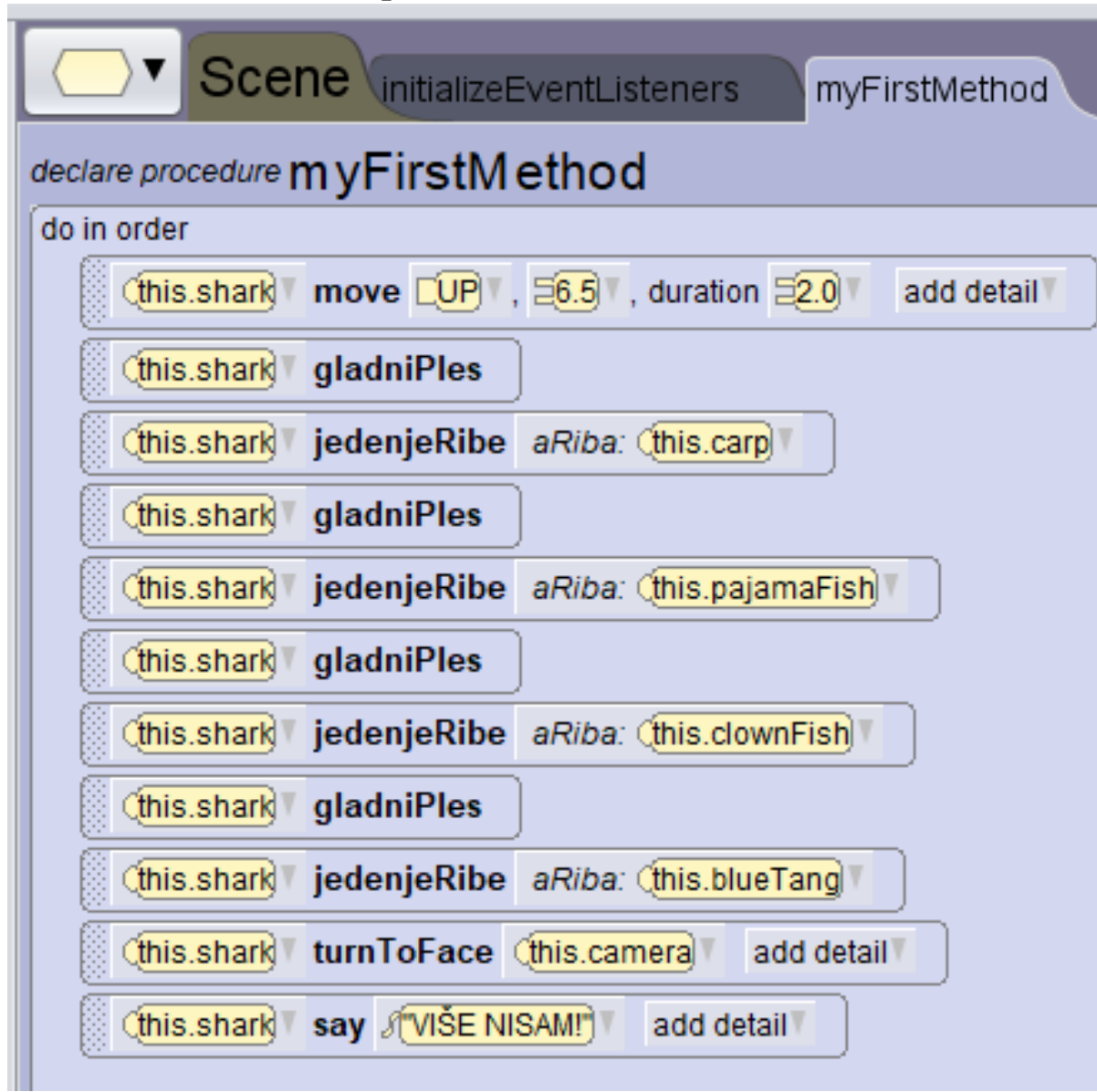
The screenshot shows a programming environment with a top bar containing tabs for 'Scene', 'initializeEventListeners', 'myFirstMethod', 'Shark', and 'jedenjeRibe'. The 'jedenjeRibe' tab is active, showing a procedure declaration: `declare procedure jedenjeRibe with parameter: Fish aRiba`. Below the declaration, a 'do in order' block contains five steps:

- `this` turnToFace `aRiba` add detail
- `this` getMouth turn FORWARD, 0.125 add detail
- `this` move FORWARD, $\frac{\text{this} \text{ getDistanceTo } \text{aRiba}}{0.25}$ add detail
- `this` getMouth turn BACKWARD, 0.125 add detail
- `aRiba` setOpacity 0.0, duration 0.25 add detail



ovo baciš u smeće i odabereš proceduru **jedenjeRibe** i za **aRiba** uzmeš **this.carp**

Svaki se puta odlučiš za ribu koja je na redu:



**aRiba je
parametar koji
obuhvaća sve
ribe odjednom!**

Vaš današnji zadatak:

Napravite **program sa tri zeca** i proceduru **HOP**, tj. u kojoj se zeko zajedno: SKOČI U ZRAK, ODE NAPRIJED ZA 0.25, pa zajedno: SPUSTI SE I ODE NAPRIJED ZA 0.25:

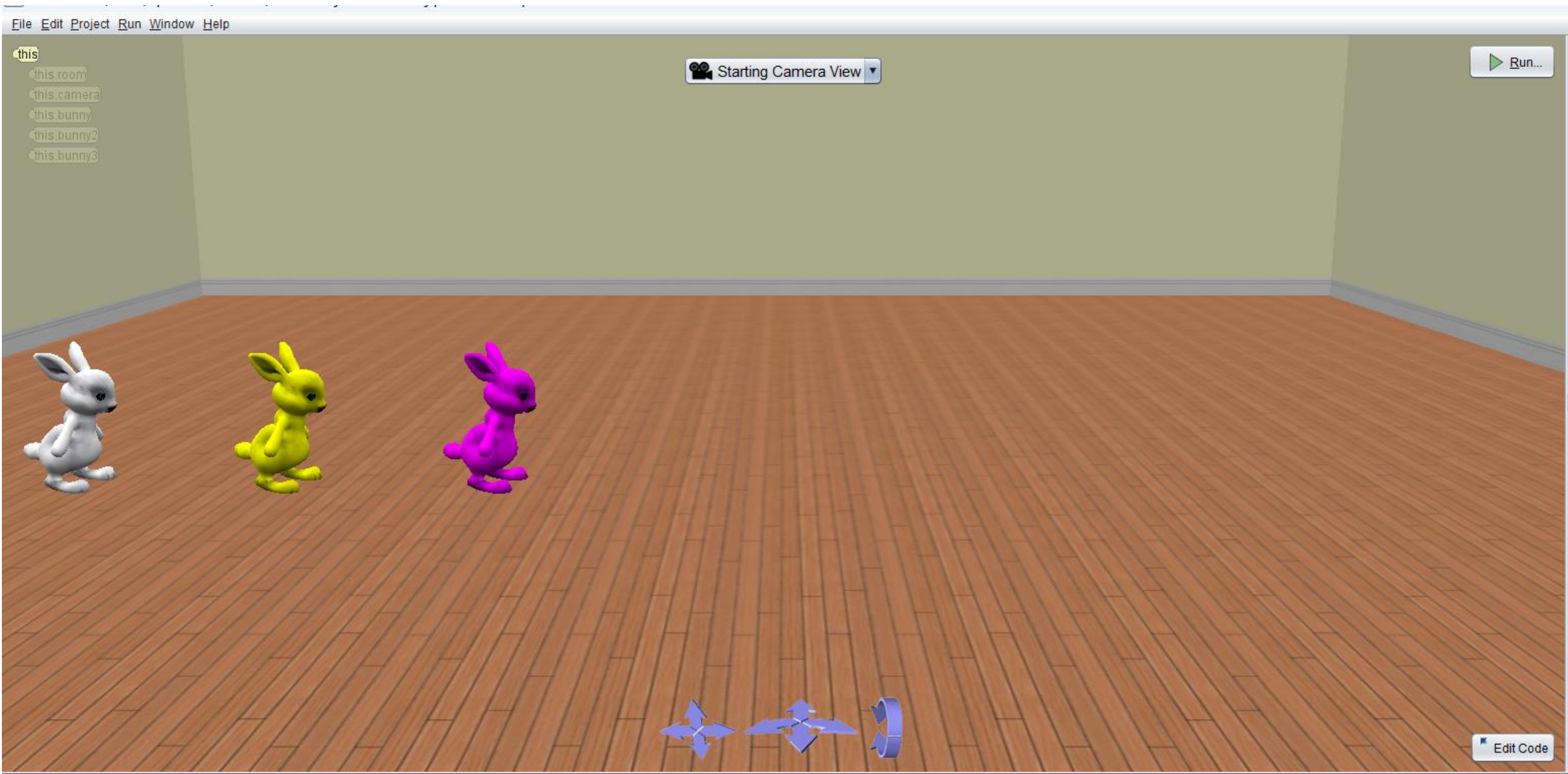


The screenshot shows the Scratch IDE interface. On the left, a white bunny sprite is selected, and the 'Run...' button is visible. Below the sprite, a 'back to: Scene' button is shown. The main workspace displays the 'hop' procedure for the 'Bunny' sprite. The procedure is defined as follows:

```
declare procedure hop
do in order
  do together
    this move UP 0.5, duration 0.25, animationStyle BEGIN_AND_END_GENTLY
    this move FORWARD 0.25, duration 0.25, animationStyle BEGIN_AND_END_GENTLY
  do together
    this move DOWN 0.4, duration 0.25, animationStyle BEGIN_AND_END_GENTLY
    this move FORWARD 0.25, duration 0.25, animationStyle BEGIN_AND_END_GENTLY
```

The interface includes a 'selected type: Bunny' label, a 'Run...' button, a 'back to: Scene' button, and a 'this' variable selector. The 'Procedures' and 'Functions' tabs are visible at the bottom.

Scena:



A program izgleda:

