

# Getting Started in Jeroo



Lesson 1.1—Jeroo

## Introduction

- *Jeroo* is a simulation where learning to program a computer is introduced. It is designed for novices, yet incorporates many concepts which are transparent to the programmer.
- A *Jeroo* is similar to a kangaroo. It hops around an island picking and planting flowers, which are its primary source of food.
- As a *Jeroo* moves about the island, it must evade the nets which are set to capture it, and water which will slow it down.

## The Jeroo Environment

The screenshot displays the Jeroo development environment. The main window is titled "Jeroo's World -- Source File: C:\Documents and Settings\david.wood\Desktop\jeroo01.jsc Island File: none". The interface includes a menu bar (Source File, Source Edit, Run, Run Speed, Island File, Island Edit, Help) and a toolbar with icons for file operations, execution, and help. The central area is divided into two main panes: the left pane shows the source code editor with a "main method" tab and a "Jeroo methods" tab. The code in the main method is: 

```
method main()
{
  Jeroo david = new Jeroo(4,5);
}
```

 The right pane shows the "Island View", a grid-based simulation environment with a blue border and a green grassy background. A blue arrow cursor is positioned on the grid. Below the main panes, there are two status windows. The "Program Status Window" shows the current language style as "Java/C++/C#" and a progress bar for "Saving Source Code...", "Compiling...", and "Stepping...". The "Jeroo Status Window" shows the cursor location as "off the island" and a list of Jeroo objects: "david" with a yellow kangaroo icon and "[00]".

**Program Window**

**Main Class Window  
CS2 Term**

**Island View**

**Program Status Window**

**Jeroo Status Window**

## Environment Description

- **Island View**—Displays where Jeroo's, flowers, nets, water and other parts of the island are at any given time.
- **Program Window**—Area where Jeroo's are created and given commands.
- **Program Status Window**—Displays the current status of the program. It is either compiling, stepping, stopped, or blank indicating it has been started over
- **Jeroo Status Window**—Displays the current status of each Jeroo on the island.

# Jeroo Menu Bars



Lesson 1.1—Jeroo



## Island Menu Bar

1. Create a new island
2. Opens an island from your student folder
3. Saves the island to your student folder
4. Change the name and save the island to your student folder
5. Print the island.
6. Place a flower on the island
7. Place a net on the island
8. Add water to the island
9. Clear the entire island
10. Help menu
11. Exit Jeroo program

## Adding/Removing parts of the island

- Left click to add flower, net, or water.
- Right click to remove flower, net or water.
- *Jeroo's* are **not** added here.



## Program Menu Bar

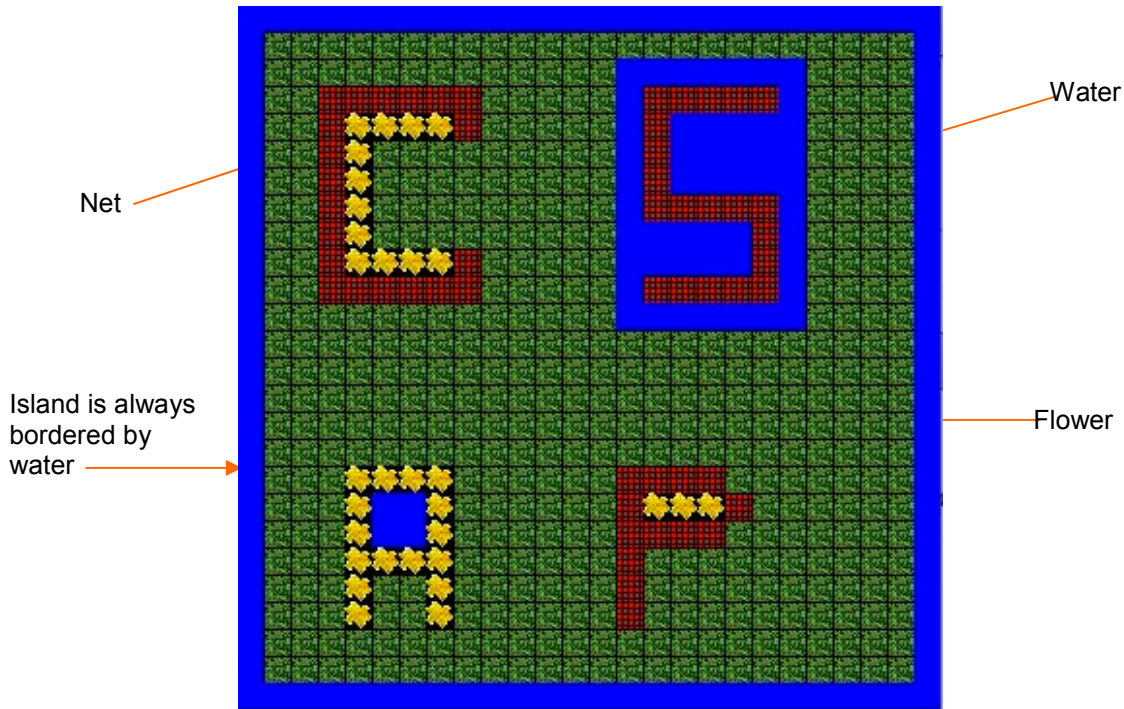
1. Create a new program
2. Opens a program from your student folder
3. Saves the program to your student folder
4. Change the name and save the program to your student folder
5. Print the program.
6. Cuts the highlighted text to the clipboard
7. Copies the highlighted text to the clipboard
8. Pastes contents of the clipboard to the program
9. Undo typing
10. Resets the program, must be done each time to start the program over
11. Play the program one step at a time. Must click stop (14) to halt program. Must reset (10) start over.
12. Plays the program continuously. Must click stop (14) to halt program. Must reset (10) to start over.
13. Pause program
14. Stop program. Must reset (10) to start over.
15. Speed control.

# Creating an Island

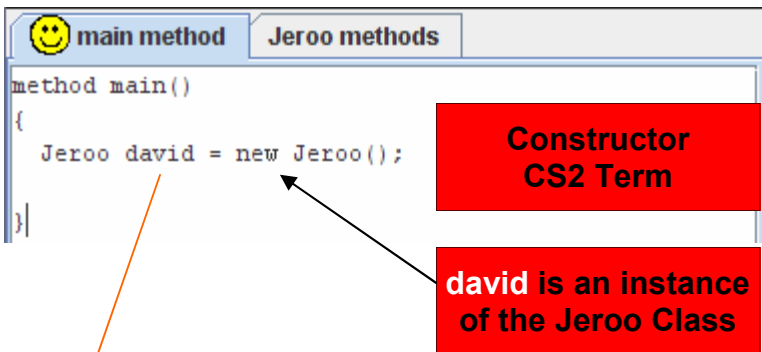


## Creating an Island

- Some islands will be downloaded from askWood and saved in your student folder. They can be opened from your folder.
- Some islands will be created from scratch.
  - A generic island is made for you. The island is always bordered by water, but is not counted as part of the island. Jeroo's may not leave the island.
  - Customize by adding more water, nets, or flowers.

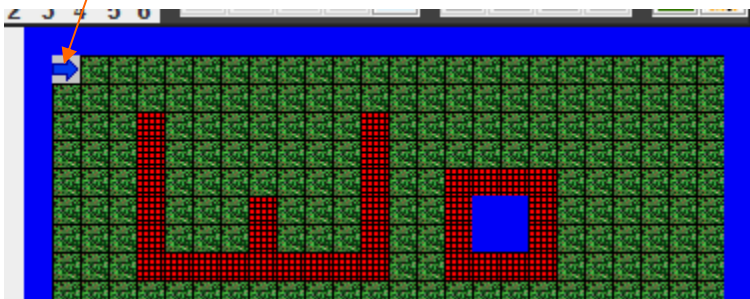


# Creating an Jeroo



## Creating a Jeroo

- Every Jeroo program has a method `main()` and `{ }` to indicate where it starts and stops.
- To Create a *Jeroo*, it must first be given a name.
  - Must begin with a letter
  - Spaces cannot be used, instead use `_`
  - Numbers can be used except for the first letter of the name.
  - Symbols cannot be used, except the `_`



## Fact Sheet about the Jeroo david

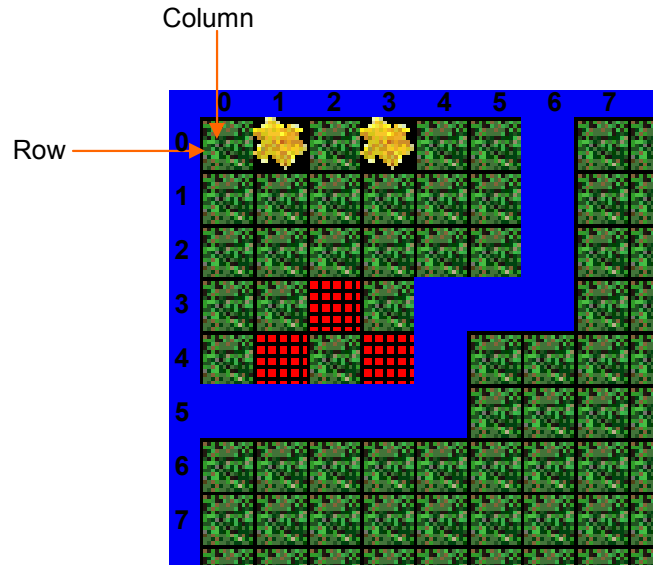
- The Jeroo is placed in the top left corner.
- You can see the status of the Jeroo in the status window below the island.
- The Jeroo is facing EAST.
- The Jeroo has 0 flowers in its pouch.

# The Jeroo Island



## How to locate something on the Jeroo Island

- The Island is organized by Rows, which are horizontal and Columns, which are vertical.
- The NorthWest corner of the island is  $(0, 0)$ .
- The boundary of water around the island is NOT part of the actual island.
- When making reference to a location on the island the Row is first, and the Column is second in the  $( )$ .



- The nets are located at  $(3, 2)$ ,  $(4, 1)$  and  $(4, 3)$
- The flowers are located at  $(0, 1)$  and  $(0, 3)$

# Jeroo Action Commands



## A Jeroo is capable of the following the these commands.

- To issue a command to the Jeroo, you must use its name following by a . and then the command you wish for it to execute. e.g. `dauid.hop()` ;
- Each command is followed by a set of ( ) and a ;. Sometimes information is typed between the ( ).

Action Command	Explanation	Example of usage
<code>hop()</code>	Hop once in the direction the Jeroo is facing	<code>dauid.hop()</code>
<code>hop(n)</code>	Hop <i>n</i> times in the direction the Jeroo is facing <i>n</i> must be a integer larger than 0	<code>dauid.hop(3)</code>
<code>pick()</code>	Pick a flower from the current location of the Jeroo	<code>dauid.pick()</code>
<code>plant()</code>	Plant a flower at the current location of the Jeroo	<code>dauid.plant()</code>
<code>toss()</code>	Toss a flower once space ahead of the Jeroo location	<code>dauid.toss()</code>
<code>give(direction)</code>	Give a flower to another Jeroo in an adjacent location in the <i>direction</i> specified <i>direction</i> must be LEFT, RIGHT, AHEAD, HERE	<code>dauid.give(LEFT);</code> <code>dauid.give(AHEAD);</code>
<code>turn(direction)</code>	Turn the Jeroo in the indicated direction, but stay in the same location <i>direction</i> must be LEFT, RIGHT, AHEAD, HERE	<code>dauid.turn(LEFT);</code>

main method
Jeroo methods

```

method main()
{
  Jeroo dauid = new Jeroo();
  dauid.hop();
  dauid.hop(2);
  dauid.pick();
  dauid.plant();
  dauid.toss();
  dauid.give(LEFT);
  dauid.turn(RIGHT);
}

```

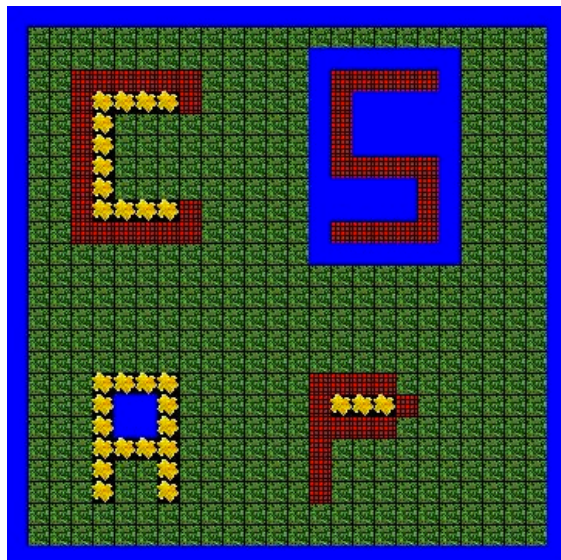
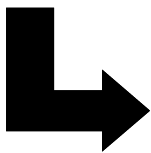
Examples of how the Jeroo  
**dauid** uses the action  
 commands.

methods  
 CS2 Term



Click to watch the Jeroo perform each command one step at a time.

You must click restart when done, or else the Jeroo will not start over again.



You can watch the Jeroo execute your steps in the island window.



## How many Jeroo's can be on an island?

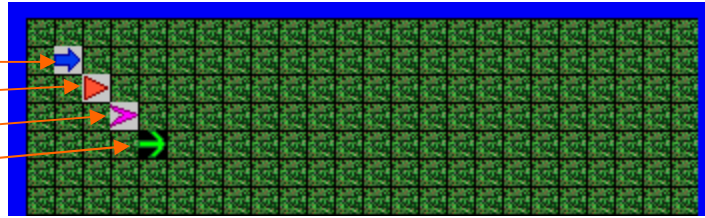
- No 2 Jeroo's can ever occupy the same location on the island.
- An island can only contain 4 Jeroo's at any time.

```
Jeroo one = new Jeroo(1,1);
```

```
Jeroo two = new Jeroo(2,2);
```

```
Jeroo three = new Jeroo(3,3);
```

```
Jeroo four = new Jeroo(4,4);
```



Cursor Location		off the island	
one	[00]	two	[00]
three	[00]	four	[00]

## Jeroo Status Window

- Reports the name of each Jeroo.
- Reports how many flowers each Jeroo has in its pouch.

# Other Ways to Create a Jeroo



## How many ways are there to Create a Jeroo?

- There are 6 ways to create a Jeroo.

Action Command Explanation	Example of usage
<pre>Jeroo david = new Jeroo();</pre>	This is the default way to create a Jeroo. 1. placed at Location (0, 0) 2. facing EAST 3. 0 flowers in its pouch
<pre>Jeroo david = new Jeroo(3, 2);</pre>	1. placed at Location (3, 2) 2. facing EAST 3. 0 flowers in its pouch
<pre>Jeroo david = new Jeroo(3, 4, 8);</pre>	1. placed at Location (3, 4) 2. facing EAST 3. 8 flowers in its pouch
<pre>Jeroo david = new Jeroo(8);</pre>	1. placed at Location (0, 0) 2. facing EAST 3. 8 flowers in its pouch
<pre>Jeroo david = new Jeroo(3, 4, WEST);</pre>	1. placed at Location (3, 4) 2. *facing WEST 3. 0 flowers in its pouch *also NORTH, EAST, SOUTH
<pre>Jeroo david = new Jeroo(3, 4, SOUTH, 8);</pre>	1. placed at Location (3, 4) 2. *facing SOUTH 3. 8 flowers in its pouch *also NORTH, EAST, SOUTHWEST