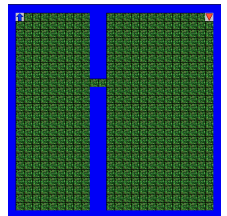
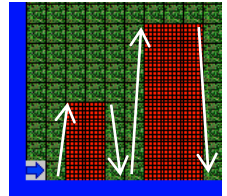


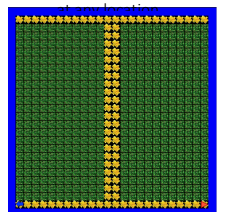
(40 pts) Approx. 4 days

Now that we have an understanding of the basics of Jeroo creation (“instantiation”) and how to use methods to make them do things, it’s time to learn about control structures. Control structures – like “if”, “if-else”, and “while” can make Jeroos do things repeatedly or make Jeroos only do things in certain circumstances. Here you’ll learn how these new tools work, and then use them to solve much trickier *advanced Jeroo challenges!*

1. Watch the introductory videos on control structures in Jeroo. Take good notes on each, and think about the difference between each of them.
2. **Challenge 5: HURDLES** The Jeroos are running hurdles. Develop a program that creates a Jeroo along the very bottom of the island (for example 23,0). They should run left to right and each time they encounter a vertical row of nets they should run up and over them. For example, a Jeroo on the island below would follow the arrow to get around the nets. This program should work for *any* configuration of net “hurdles” provided in the the Jeroo download.



One possible island; the program needs to handle vertical streams



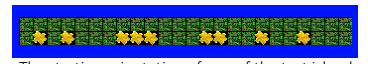
The resulting pattern of flowers when the program is complete

**Challenge 6: TOM AND TAMMY** Tom and Tammy are in love, and today’s the day that Tom is going to propose. According to custom, Tom must present Tammy with a flower as an official sign of his intentions. Tom lives in the extreme northwest corner of the island, and Tammy lives in the extreme northeast corner. The dividing river runs north and south, dividing the island roughly in the middle; the river is at least 5 cells away from the western and eastern edges of the island. The river, itself, is exactly two cells wide. Fortunately, for the lovers, there is a bridge somewhere to the south of their homes. Tom has asked Tammy to meet him at the middle of the bridge. While she suspects his motives, she doesn’t want to appear too anxious

The purpose of this program is to have Tom and Tammy find the bridge and meet in the middle where Tom will give an engagement flower to Tammy. After he has given her the flower, each returns to its home and faces the home of its betrothed. Each Jeroo starts at its home, Tom at (0,0) and Tammy at (0,23). Each can start facing any direction. Tom starts with one special flower in his pouch

**Challenge 7: BUGS & DAFFY** One Saturday morning, two friends, Bugs and Daffy, decide to meet and plant flowers to beautify Santong island. Daffy starts in the Northwest corner facing East with 90 flowers in his pouch. Bugs starts in the Northeast corner facing West with 90 flowers in his pouch. Bugs and Daffy begin hopping toward one another. As they hop, each plants exactly one flower at every location it enters, including its starting location. They meet, facing each other, roughly in the middle of row 0. After a handshake and a little small talk, Bugs and Daffy both turn toward the south and continue planting flowers all the way to the southern edge of the island. When both reach the South Sea, they say goodbye and part. Daffy turns west and plants flowers all the way to the Western Ocean. Bugs turns east and plants flowers all the way to the Eastern Ocean. This is where our story ends. Your task is to write a Jeroo program that will illustrate this story.

**Challenge 8: FLOWER COPY** The Jeroos are practicing planting flowers in special patterns. Develop a program that makes a Jeroo that walks along the top edge of the island shown. As your Jeroo hops along it should plant a flower right above any flower it hops next to.



The starting orientation of one of the test islands



The final orientation of the test islands when the program is complete

Part 2: Tasks	8-7 points	6-4 points	3-0 points
Jeroo Notes	+ You took a full page of notes on control structures in Jeroo	- You took less than a full page of notes	- Your notes are lacking or missing
Advanced Challenge 5	+ You completed the Advanced Challenge: <i>Hurdles</i>	- You never got the program working fully	- You did not attempt the challenge
Advanced Challenge 6	+ You completed the Advanced Challenge: <i>Tom &amp; Tammy</i>	- You never got the program working fully	- You did not attempt the challenge
Advanced Challenge 7	+ You completed the Advanced Challenge: <i>Bugs &amp; Daffy</i>	- You never got the program working fully	- You did not attempt the challenge
Advanced Challenge 8	+ You completed the Advanced Challenge: <i>Flower Copy</i>	- You never got the program working fully	- You did not attempt the challenge
Checkoff from Benshoof	+ Mr. Benshoof got to see your successful challenges	N/A	N/A

