

M5 - Boat Race

Use your pointer to steer the boat to safety against the clock

1. Sprite and backdrop

Start a new project and delete the cat sprite. Load up the boat sprite and the backdrop (or design your own) . Note that the aim is to get your boat to the island as soon as you can. Name the boat costume 'normal'

2. Boat control

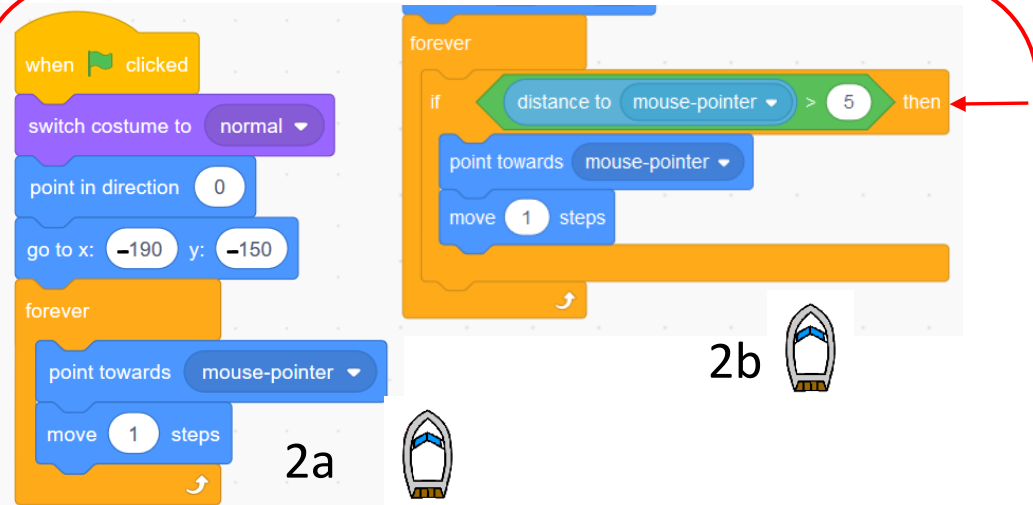
Move the boat bottom left, and add the script 2a. Test it and the boat should follow the pointer/mouse direction. What happens when the pointer is over the boat? To overcome this juddering, add a single If within the Forever loop to minimise tiny movements (2b), and test it

3. Barriers and collisions

Duplicate the boat costume. Name the new one 'hit'. Use the select tool to grab bits of the 'hit' costume and move them. You want this costume to look as if it has hit the wall (3a). Add script 3b within the forever loop to respond to a crash with the wooden wall, and return the boat to the start. Match the wall colour via the dropper. Test it works (3c)

4. The Island

Can you add another If script to activate when the boat reaches the island (4a). You will need to include 4b to indicate success and to stop the game

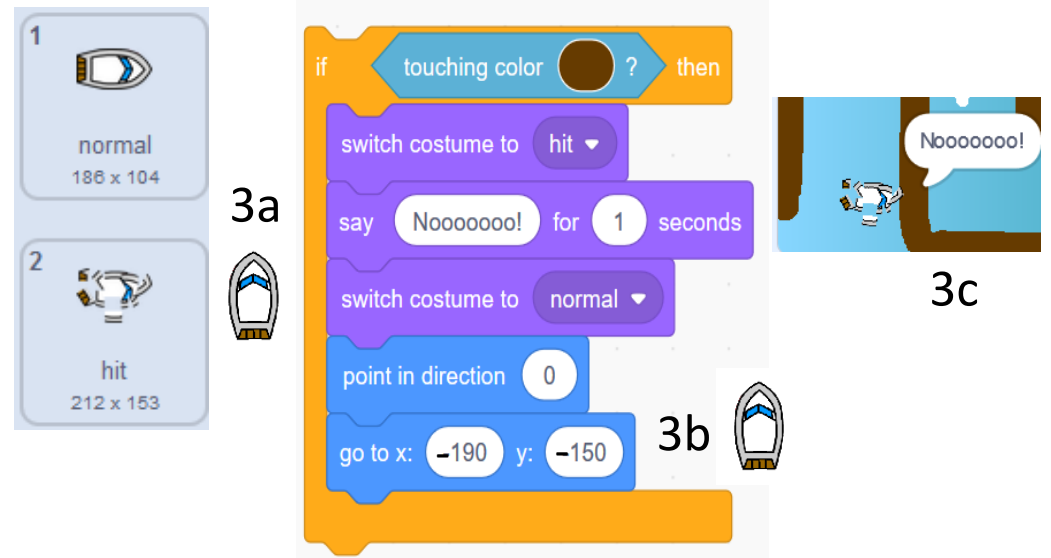


2a

2b

When green flag clicked, switch costume to normal, point in direction 0, go to x: -190 y: -150, then a forever loop containing: point towards mouse-pointer, move 1 steps.

2b: A nested forever loop with an if condition: if distance to mouse-pointer > 5 then: point towards mouse-pointer, move 1 steps.



3a

3b

3c

3a: Two costumes: 'normal' (188 x 104) and 'hit' (212 x 153).

3b: An if condition: if touching color (brown) then: switch costume to hit, say Nooooooo! for 1 seconds, switch costume to normal, point in direction 0, go to x: -190 y: -150.

3c: A screenshot of the boat hitting a wall with a speech bubble saying 'Nooooooo!'.



4a

4b

4a: A screenshot of the boat reaching an island with a speech bubble saying 'At Last!' and a timer showing 28.4.

4b: A script: say At Last! for 1 seconds, stop all.

5. How quick?

Select the backdrop and add a visible timer variable for all sprites (5a). I used the large readout (right click on the visible variable) Add the timer script (5b) to your backdrop, to make it a race to finish

6. Test

Test the game. How quickly can you get to the island?

7. Extra obstacle

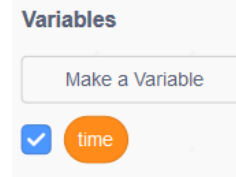
Add in a simple rectangular rotating 'gate' sprite near the finish, in the same colour as the 'walls' (7a). Set the centre of the gate carefully, so it rotates sensibly. Add script 7b to it, and test carefully

8. Boosts

Add shapes in white onto the backdrop, representing speedups. Script 8 added inside the boat forever loop activates the boosts. Test it

Try these:

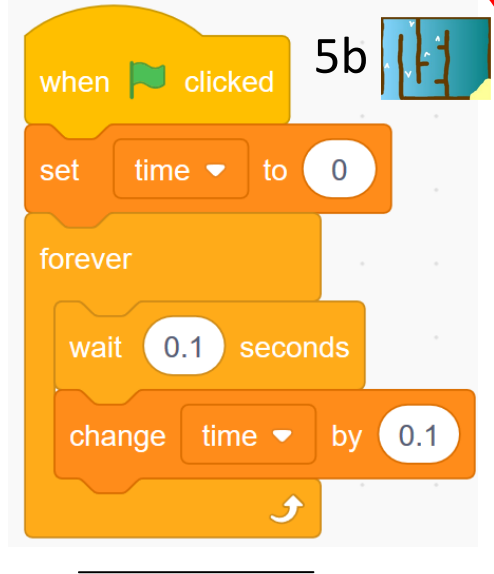
- . Add suitable sounds for the game (eg crash, win, lose)
- . You can add green slime to slow the boat down. Just include a wait to pause progress
- . You could introduce a shark or floating log. If you do, you may need to include scripts like 9. Remember you will also need a script like 3b to detect the collision with the boat. Make sure you match the colours for the script to work



Variables

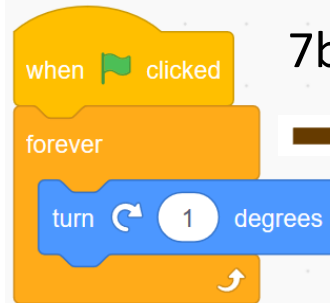
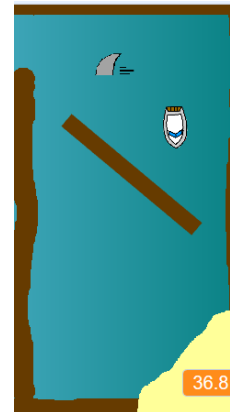
Make a Variable

time



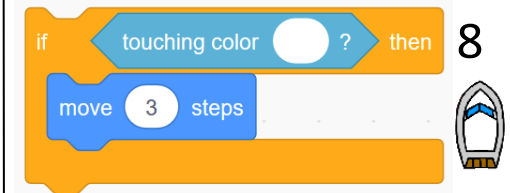
5b

```
when green flag clicked
  set time to 0
  forever loop
    wait 0.1 seconds
    change time by 0.1
```



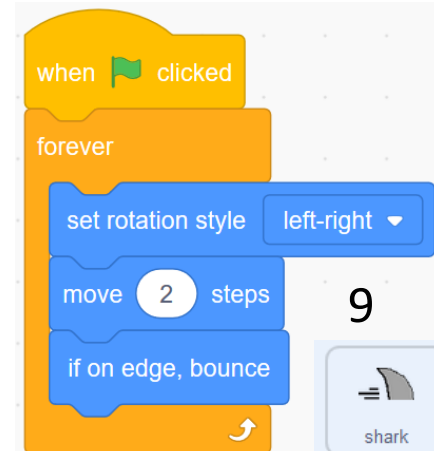
7b

```
when green flag clicked
  forever loop
    turn 1 degrees
```



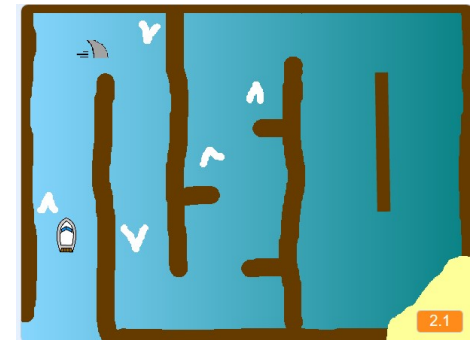
8

```
if touching color
  then
    move 3 steps
```



9

```
when green flag clicked
  forever loop
    set rotation style to left-right
    move 2 steps
    if on edge, bounce
```



Checksheet

Backdrop



```
when clicked
forever
  turn 1 degrees
```

Gate

```
when clicked
forever
  set rotation style left-right
  move 2 steps
  if on edge, bounce
```

Shark

```
when clicked
set time to 0
forever
  wait 0.1 seconds
  change time by 0.1
```



Boat

```
when clicked
switch costume to normal
point in direction 0
go to x: -190 y: -150
forever
  if distance to mouse-pointer > 5 then
    point towards mouse-pointer
    move 1 steps
  if touching color black ? then
    switch costume to hit
    say Noooooo! for 1 seconds
    switch costume to normal
    point in direction 0
    go to x: -190 y: -150
  if touching color yellow ? then
    say At Last! for 5 seconds
    stop all
  if touching color white ? then
    move 3 steps
  if touching color grey ? then
    switch costume to hit
    say Shark!!!! for 2 seconds
    switch costume to normal
    point in direction 0
    go to x: -190 y: -150
```

Barrier wall hit

Island reached

Speed Boost

Shark hit