# SUPER SWIMMER DIRECTIONS

## WANTAGH TECHDAY – CS.001

LINK TO GAME USING THESE DIRECTIONS: HTTP://SCRATCH.MIT.EDU/PROJECTS/16247338/
LINK TO GAME WITH FULL FEATURES: HTTP://SCRATCH.MIT.EDU/PROJECTS/3310840/

## ** TIME TO MAKE OUR OWN VERSION OF SUPER SWIMMER**

### ** SETTING UP**

- ADD NEW BACKDROP (UNDERWATER3)
- DELETE BACKDROP 1 (WHITE BACKGROUND)
- DELETE SPRITE 1
- ADD NEW SPRITE (DIVER1/DIVER2 IF BOY/GIRL)
- SHRINK DIVER BY 7

- RENAME DIVER(1/2) TO SCUBA STEVE/SALLY
  - UNDER INFO OF SPRITE
  - CHANGE ROTATION STYLE TO DOT (NO ROTATION)

### ** INTRODUCING CONDITIONALS, LOOPS**

- **ALLOW FOR MOVEMENT**
  - WHEN GREEN CLICKED
    - SHOW
    - FOREVER
      - IF UP ARROW CLICKED
        - CHANGE Y BY 10
        - IF ON EDGE, BOUNCE
      - IF DOWN ARROW CLICKED
        - CHANGE Y BY -10
        - IF ON EDGE, BOUNCE
      - IF RIGHT ARROW CLICKED
        - CHANGE X BY 10
        - IF ON EDGE, BOUNCE
      - IF LEFT ARROW CLICKED
        - CHANGE Y BY -10
        - IF ON EDGE, BOUNCE

- **IMPROVED MOVEMENT**
  - IF UP ARROW CLICKED
    - CHANGE Y BY 10
    - **IF Y POSITION > 162
      - SET Y TO 162
  - IF DOWN ARROW CLICKED
    - CHANGE Y BY -10
    - **IF Y POSITION < -163
      - SET Y TO 163
  - IF RIGHT ARROW CLICKED
    - CHANGE X BY 10
    - IF X > 194
      - SET X TO 194
  - IF LEFT ARROW CLICKED
    - CHANGE X BY -10
    - **IF X < -194
      - SET X TO -19

### ** ADDING AN ENEMY (LET'S DO SHARK)**

- ADD NEW SPRITE (ANIMALS/SHARK)
  - GO TO COSTUMES
    - DELETE SHARK-A AND SHARK-C
    - ONLY NEED TO USE SHARK-B (AS HE'S HUNGRY AND TRYING TO EAT SCUBA STEVE/SALLY)
    - NOW WE NEED TO FLIP HIM SO HE'S FACING THE RIGHT WAY (WANT THEM TO COME FROM THE RIGHT)
      - TOP RIGHT CORNER, HIT THE FLIP LEFT-RIGHT BUTTON
  - SHRINK HIM X8 (SCUBA STEVE/SALLY SHOULD FIT RIGHT IN HIS MOUTH NOW)

- WHEN GREEN FLAG CLICKED
  - HIDE
  - GO TO X: -250, Y: 90
  - WAIT 5 SECONDS
  - SHOW
  - FOREVER
    - IF X POSITION ← -240 THEN
      - HIDE
      - GO TO X: 300, Y: 0
      - WAIT 5 SECONDS
      - SHOW
    - CHANGE X BY -8

### ** TIME TO DETERMINE COLLISIONS! THE PLAYER LOSES IF YOU TOUCH THE SHARK! **

AFTER LAST IF THEN (BUT INSIDE FOREVER AND ABOVE CHANGE X BY -8...)
  - IF TOUCHING SUPER[STEVE/SALLY] THEN
    - BROADCAST [LOSE]...
      - NEW MESSAGE [LOSE]
- UPLOAD NEW SPRITE FROM COMPUTER
  - S:\CS.001\RESOURCES\LOSE.SPRITE
  - NEED TO JUST MOVE IT INTO THE MIDDLE OF THE SCREEN (SO IT SHOWS UP RIGHT WHEN YOU LOSE)

### ** NEED TO GIVE LOSE SPRITE SOME SCRIPTS **

- WHEN GREEN FLAG CLICKED
  - HIDE (DON'T WANT IT UNLESS YOU LOSE)
- WHEN I RECEIVE LOSE (MESSAGE FROM SHARK)
  - SHOW
  - SHOW VARIABLE TIME
  - SHOW VARIABLE SCORE (NEED TO DO THIS LATER, WHEN YOU HAVE THE WIN)
  - STOP ALL [KILLS ALL SCRIPTS]

### ** TEST YOUR GAME **

### ** HOW CAN WE MAKE THE GAME HARDER? **

### RANDOM SHARK APPEARANCES

- CHANGE THE FIRST GO TO X: 300, Y:0 TO:
  - GO TO X: 300, Y: ←PICK RANDOM -165,165→
- CHANGE THE FIRST WAIT 5 SECONDS TO:
  - WAIT ←PICK RANDOM 5,10→ SECONDS
- CHANGE THE SECOND GO TO X:300, Y:0 TO:
  - SAME THING AS ABOVE
- CHANGE THE SECOND WAIT 5 SECONDS TO:
  - WAIT ←PICK RANDOM 2,5→ SECONDS

### **TEST AGAIN AND MAKE SURE THE SHARK IS GENERATING RANDOMLY**

- CHOOSE SPRITE FROM LIBRARY
  - ANIMALS/FISH1
  - CHANGE NAME TO PURPLEFISH (CLICK THE SPRITE AND INFO)
  - SHRINK BY 12
  - FLIP LEFT/RIGHT SO ITS FACE THE RIGHT WAY…
- GOING TO BE A *VERY* SIMILAR SCRIPT TO THE SHARK, MOSTLY ONLY DIFFERENCE IS WHAT HAPPENS WHEN YOU TOUCH DIVER

## DUPLICATING THE SHARKS CODE AND GIVING IT TO THE PURPLE FISH

- GO TO THE SHARKS SCRIPT AND CLICK THE WHEN GREEN FLAG CLICKED
- RIGHT CLICK AND HIT DUPLICATE
- DRAG OVER TO THE PURPLE FISH AND CLICK IT (SHOULD COPY IT OVER)
- DELETE THE DUPLICATE THAT HAPPENED WITH THE SHARK (SOME GLITCH IN SCRATCH)
- GO TO THE PURPLEFISH SCRIPT TO MAKE SURE ITS THERE
- HIT THE GREEN FLAG AND CHECK TO MAKE SURE THE PURPLE FISH IS GOING ACROSS THE SCREEN

## ** GOOD BUT…THERE ARE STILL SOME THINGS WE NEED TO CHANGE…**

- CHANGE THE FIRST WAIT TO PICK RANDOM 2.5 TO 3.5 SECONDS (WANT THESE FISH TO COME MORE OFTEN TO GET MORE POINTS…WE'LL EXPLAIN THE POINTS IN A FEW MINUTES)
- CHANGE THE SECOND WAIT TO PICK RANDOM 0.1 TO 1.5

## **TEST THE CODE AND RAISE YOUR HAND IF YOU NOTICE THE PROBLEM**

- DELETE THE BROADCAST LOSE…
  - PULL IT OUT, AND RIGHT CLICK AND DELETE
- ADD THE SAME CODE AS THE ABOVE IF (COPY AND PASTE IT FROM THE HIDE TO SHOW)
  - PULL IT OUT AND RIGHT CLICK AND DUPLICATE, DRAG ONE TO THE FIRST IF, ONE TO THE SECOND IF

** TIME TO MAKE SOME VARIABLES! WE NEED TO BE ABLE TO CREATE, ADD TO, AND SAVE THE SCORE**

## **GO TO DATA…MAKE A VARIABLE**

- NAME THE VARIABLE ←SCORE→ AND SAVE IT FOR ALL SPRITES
- HAVE TO CLICK THE STAGE (BOTTOM LEFT CORNER)
- THIS IS WHERE WE INITIALIZE VARIABLES IN SCRATCH…
- WHEN GREEN FLAG IS CLICKED
  - SET SCORE TO 0
- GO BACK TO THE PURPLEFISH SCRIPT
- MAKE THE FIRST EXPRESSION OF THE IF TOUCHING SUPER[STEVE/SALLY] THEN BLOCK :
  - CHANGE SCORE BY 1 (I.E., GOES ABOVE THE HIDE)

## TEST IF YOUR SCORE IS WORKING CORRECTLY

LET'S MAKE ANOTHER VARIABLE AND CALL IT ←TIME→.

WE NEED TO USE A VARIABLE TO STORE A TIME, AND THEN FOR EACH SECOND, DETRACT 1 FROM TIME

- GO TO DATA
- MAKE A NEW VARIABLE
  - FOR ALL SPRITES
  - NAME IT ‹TIME›
  - GO BACK TO THE STAGE SCRIPT, ADD THE FOLLOWING:
    - SET TIME TO 60
    - FOREVER
      - WAIT 1 SECS
      - CHANGE TIME BY -1

  ** EFFECTIVELY, THIS ACTS AS A TIMER FOR THE GAME (ONLY HAVE 60 SECONDS TO SCORE AS MANY POINTS AS POSSIBLE)
- GO TO STEVE/SALLY SCRIPT
- ADD ANOTHER IF THEN STATEMENT NESTED WITHIN THE FOREVER LOOP
- IF ‹TIME = 0›
  - BROADCAST ‹CREATE A NEW MESSAGE›
    - NAME THE MESSAGE ‹WIN›
    ## ** HAVE TO UPLOAD THE WIN SPRITE THAT WE HAVE SAVED IN THE NETWORK **
- UPLOAD NEW SPRITE FROM COMPUTER
  - S:\CS.001\RESOURCES\WIN.SPRITE2
  - NEED TO JUST MOVE IT INTO THE MIDDLE OF THE SCREEN (SO IT SHOWS UP RIGHT WHEN YOU WIN)
** NEED TO GIVE IT SOME SCRIPTS **
- WHEN GREEN FLAG CLICKED
  - HIDE (DON'T WANT IT UNLESS YOU WIN)
- WHEN I RECEIVE WIN (MESSAGE FROM TIME = 0)
  - SHOW
  - SHOW VARIABLE TIME
  - SHOW VARIABLE SCORE (DO THIS FOR LOSE SCRIPT ALSO!)
  - STOP ALL [KILLS ALL SCRIPTS]
** WE NOW HAVE THE BASIC FUNCTIONALITY OF A GAME, BUT LET'S ADD A FEW MORE FISH TO MAKE THE GAME MORE INTERESTING…**
- CHOOSE SPRITE FROM LIBRARY
  - ANIMALS/FISH2
  - SHRINK BY 12
  - FLIP LEFT/RIGHT
  - RENAME REDFISH
- CHOOSE SPRITE FROM LIBRARY
  - ANIMALS/FISH3
  - SHRINK BY 12
  - FLIP LEFT/RIGHT
  - RENAME YELLOWFISH
- UPLOAD SPRITE FROM FILE
  - S:\CS.001\RESOURCES\GREENCLAM.SPRITE2
  - SIZE AND POSITIONING SHOULD BE SET

  ## ** EVEN EASIER NOW TO DUPLICATE SCRIPTS (DO IT FROM THE PURPLEFISH) **

- DUPLICATE PURPLEFISH, DRAG TO YELLOWFISH
  - DELETE DUPLICATED PURPLEFISH
- DUPLICATE PURPLEFISH, DRAG TO REDFISH

- ○ DELETE DUPLICATED PURPLEFISH
- DUPLICATE PURPLEFISH, DRAG TO GREENCLAM
  - ○ DELETE DUPLICATED PURPLEFISH
  - ○

## ** LETS MAKE THE CLAM WORTH 5 POINTS, AND MAKE IT MORE RARE AND HARD TO CATCH **

- CHANGE FIRST WAIT PICK RANDOM TO
  - ○ WAIT PICK RANDOM 4 TO 6 SECS
- CHANGE SECOND WAIT PICK RANDOM TO
  - ○ WAIT PICK RANDOM 2 TO 4 SECS

- CHANGE SECOND WAIT PICK RANDOM TO

  - ○ WAIT PICK RANDOM 2 TO 4 SECS
- CHANGE ←CHANGE SCORE BY 1→ TO
  - ○ CHANGE SCORE BY 5
- CHANGE ←CHANGE X BY -8→ TO
  - ○ CHANGE X BY -12

## ** LAST TOUCHING UP, NEED TO HIDE ALL THE FISH WHEN YOU WIN/LOSE **

- PURPLEFISH
  - ○ WHEN I RECEIVE WIN
    - ■ HIDE
  - ○ WHEN I RECEIVE LOSE
    - ■ HIDE
- REDFISH
  - ○ WHEN I RECEIVE WIN
    - ■ HIDE
  - ○ WHEN I RECEIVE LOSE
    - ■ HIDE
- YELLOWFISH
  - ○ WHEN I RECEIVE WIN
    - ■ HIDE
  - ○ WHEN I RECEIVE LOSE
    - ■ HIDE

- GREENCLAM
  - ○ WHEN I RECEIVE WIN
    - ■ HIDE
  - ○ WHEN I RECEIVE LOSE
    - ■ HIDE
- SHARK
  - ○ WHEN I RECEIVE WIN
    - ■ HIDE
  - ○ WHEN I RECEIVE LOSE
    - ■ HIDE
- SUPER[STEVE/SALLY]
  - ○ WHEN I RECEIVE WIN
    - ■ HIDE
  - ○ WHEN I RECEIVE LOSE
    - ■ HIDE

# **THE GAME IS DONE!!**