

Introduction to Visual and Interactive Programming

CT803-4-0-OIVIP

Lab Week 1

Introduction to Microsoft Teams and the Snap! Environment

Exercise 1

- **Make a sprite move across the screen:** A sprite is a graphical object that you can control with code. To make a sprite move, you need to change its x and y coordinates. You can use the **move** block to move the sprite by a certain number of steps, or the **go to x: y:** block to move the sprite to a specific location. You can also use the **forever** block to repeat an action indefinitely, or the **repeat** block to repeat an action a certain number of times. Make the sprite move from one edge of the screen to the other, and then back again. You can also change the sprite's **costume**, **direction**, or **size** to make it more interesting.

Exercise 2

- **Make a sprite say something:** You can use the **say .. for .. secs** block to make a sprite say a message for a certain amount of time. You can also use the **ask** block to make a sprite ask a question and wait for an answer. Make a sprite say hello, ask the user's name, and then say something nice about them.

Exercise 3

- **Make a sprite change its color:** You can use the **'set color effect to'** block to change the color of a sprite. The color effect is a number that represents the hue of the sprite, from 0 to 100. You can also use the **'change color effect by'** block to change the color effect by a certain amount. Make a sprite change its color gradually, or randomly.

Exercise 4

- **Make a sprite bounce off the edges of the screen:** You can use the **if** block to check a condition, and the **touching** block to check if a sprite is touching something. You can also use the **turn** block to turn a sprite by a certain angle, or the **point in direction** block to point a sprite in a specific direction. Make a sprite move around the screen, and bounce off the edges when it touches them. You can also make the sprite bounce off other sprites, or make sound effects when it bounces.

Exercise 5

- **Make a sprite follow the mouse pointer:** You can use the **mouse x** and **mouse y** blocks to get the x and y coordinates of the mouse pointer. You can also use the **point towards** block to make a sprite point towards another sprite or the mouse pointer. Make a sprite follow the mouse pointer wherever it goes. You can also make the sprite change its speed, size, or costume depending on the distance from the mouse pointer.