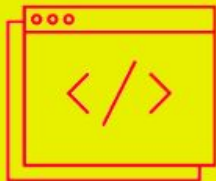




**at the University of Michigan Department of
Computational Medicine and Bioinformatics**

Choreography with Code



CAPABILITIES

We offer learning opportunities for our students and alumni to deepen their computer science skills as well as their confidence.

CAREER

Our programs create clear pathways for Girls Who Code alumni from middle and high school into the computing workforce.



COMMUNITY

We build a supportive sisterhood of peers and role models who help our students and alumni persist and succeed.

What is
coding?

Boolean: binary value with two possible values



TRUE



FALSE

If you like the color pink:

Put your thumb up

Else:

Put your thumb down

If you have brown hair:

Go to left side of classroom

Else:

Go to right side of classroom

If you like chocolate:

Go to left side of classroom

Else:

Go to right side of classroom

If you were born in Michigan:

Go to left side of classroom

Else:

Go to right side of classroom

If you like dogs:

Go to left side of classroom

Else if you like cats:

Go to right side of classroom

Else:

Go to front of classroom

If you like math:

Go to left side of classroom

Else if you like science:

Go to right side of classroom

Else:

Go to front of classroom

If you like to read:

Go to left side of classroom

Else if you like to watch tv:

Go to right side of classroom

Else:

Go to front of classroom

Conditional statement

If something is TRUE:



Then do something

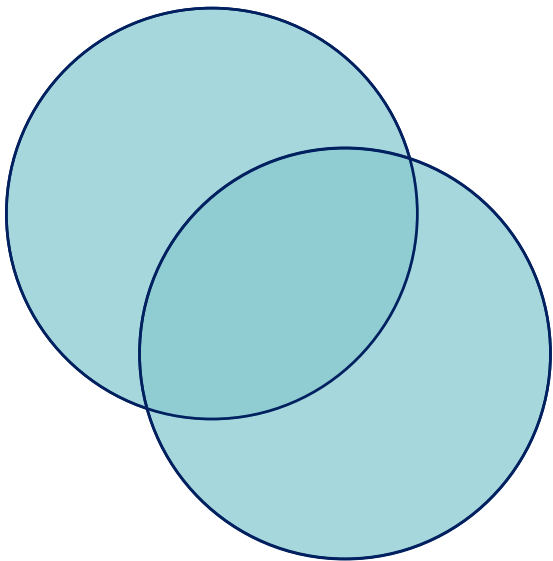
Else if something is TRUE:

Then do something

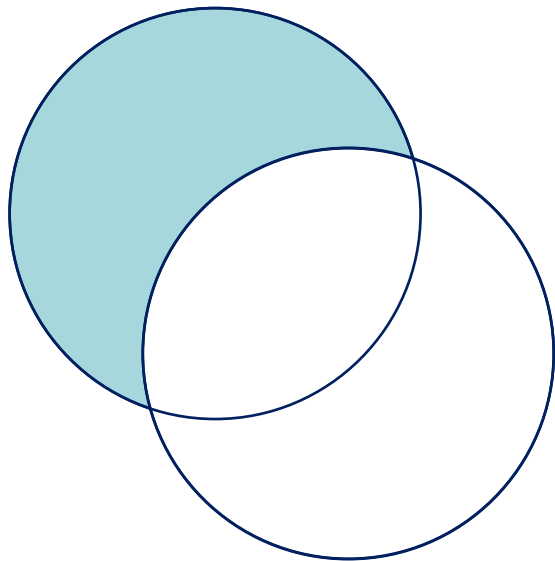
Else:

Do something

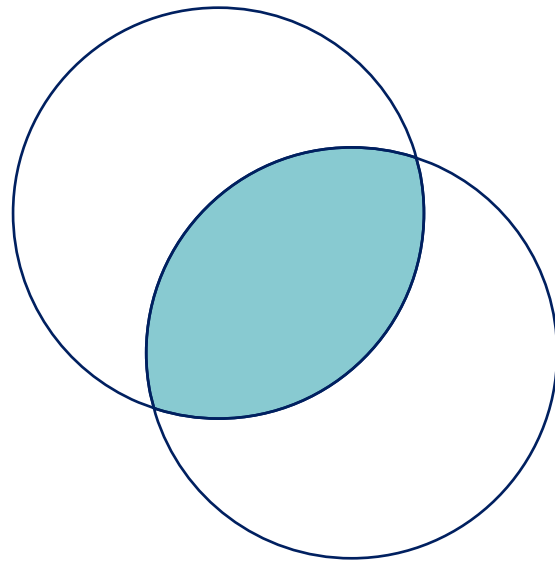
Boolean operators



OR

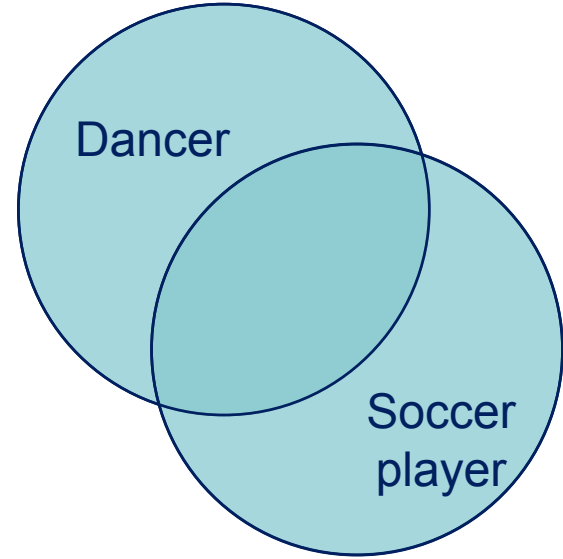


NOT

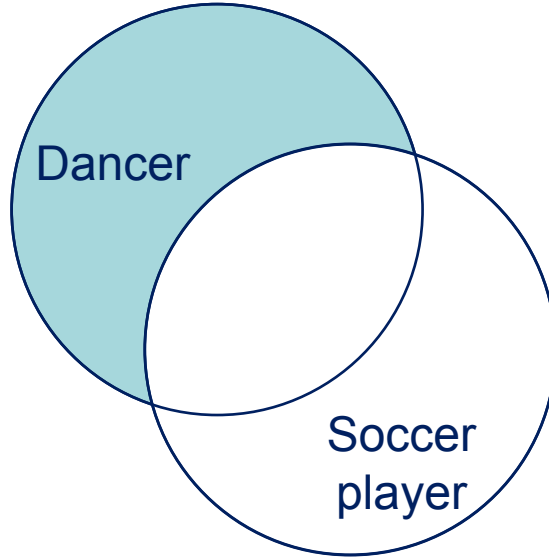


AND

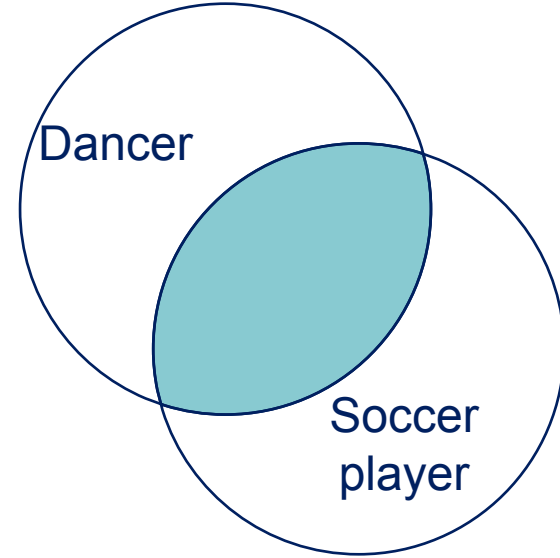
Boolean operators



OR



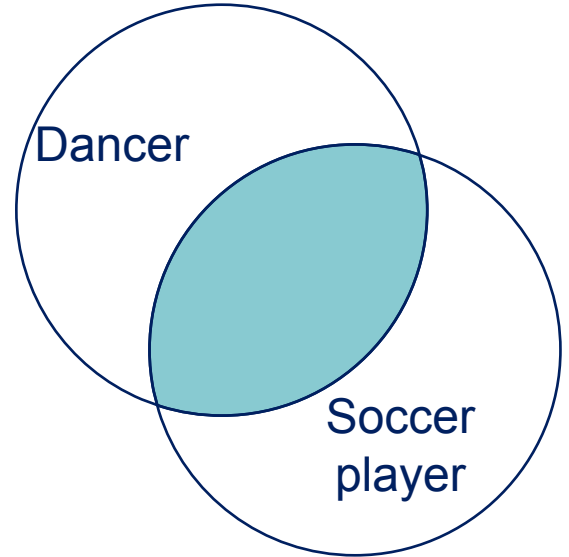
NOT



AND

If you like to dance and play soccer:

Raise both hands

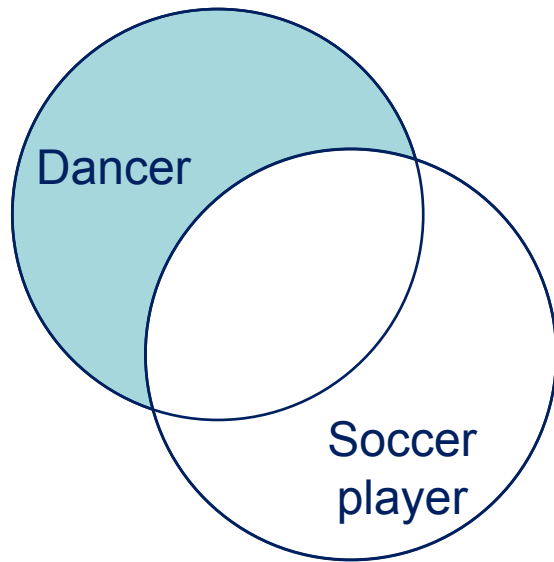


If you like to dance and play soccer:

Raise both hands

Else if you like to dance:

Raise your right hand



If you like to dance and play soccer:

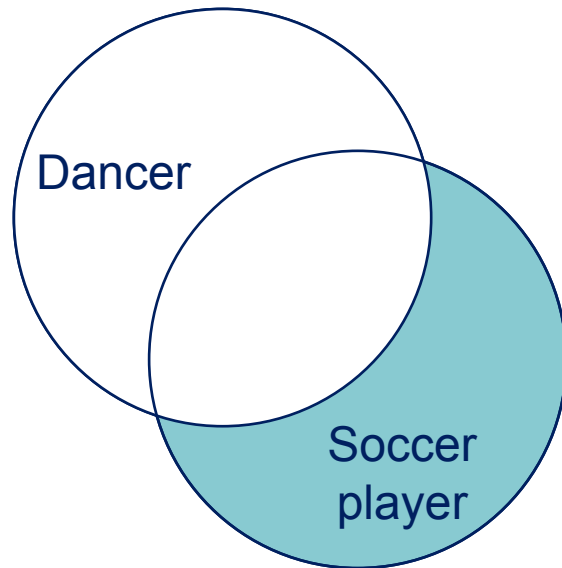
Raise both hands

Else if you like to dance:

Raise right hand

Else if you like to play soccer:

Raise left hand



If you like to dance and play soccer:

Raise both hands

Else if you like to dance:

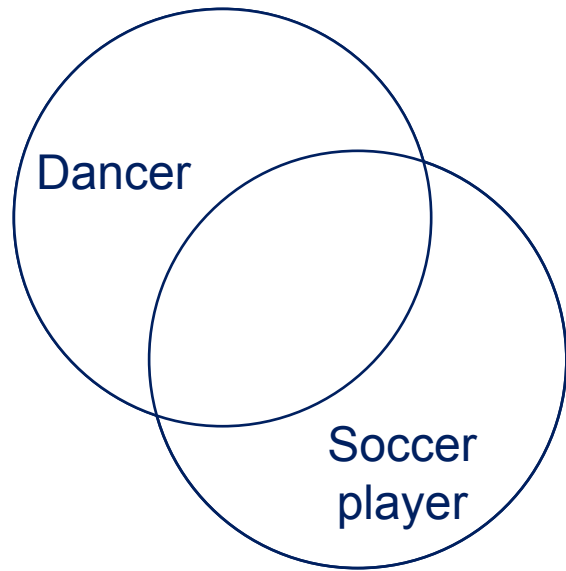
Raise right hand

Else if you like to play soccer:

Raise left hand

Else:

Keep both hands down



Choreography with Code



Instructions

This ballerina wants to show you her moves! Press the green flag to start and answer her questions!

Notes and Credits

Choreography with Code

The image shows a Scratch project titled "Choreography with Code - v2" by shiled8. The stage features a green curtain backdrop and a ballerina sprite. The project is organized into three main sections: Sprites, Scripts, and Sounds.

Sprites Panel:

- New sprite:** A ballerina sprite is selected.
- Stage:** 1 backdrop.
- New backdrop:** A button to add a new backdrop.

Scripts Panel:

- when clicked:** switch costume to ballerina-a, go to x: 0 y: -50, point in direction 90°.
- when down arrow key pressed:** switch costume to ballerina-b.
- when up arrow key pressed:** switch costume to ballerina-a.
- when right arrow key pressed:** switch costume to ballerina-d, turn 90 degrees, wait 0.2 secs, switch costume to ballerina-a.
- when left arrow key pressed:** switch costume to ballerina-c, turn 90 degrees, wait 0.2 secs, switch costume to ballerina-a.
- when space key pressed:** repeat until key c pressed, point in direction 90°, switch costume to ballerina-d, go to x: 0 y: 50, wait 0.1 secs, point in direction 180°, wait 0.1 secs, point in direction 90°, go to x: 0 y: -50, switch costume to ballerina-b, wait 0.1 secs, point in direction 90°, switch costume to ballerina-a.

Motion Panel:

- move 10 steps
- turn 15 degrees
- turn 15 degrees
- point in direction 90°
- point towards mouse-pointer
- go to x: 0 y: -50
- go to mouse-pointer
- glide 1 secs to x: 0 y: -50
- change x by 10
- set x to 0
- change y by 10
- set y to 0
- if on edge, bounce
- set rotation style left-right
- x position
- y position
- direction

Choreography with Code

If answer to question “Do you want me to dance?” is yes:

Ballerina dances

Else:

If answer to question “Do you want me to dance” is no:

Ask “Would you like me to do some flips?”

If answer to question “Would you like me to do some flips?” is yes:

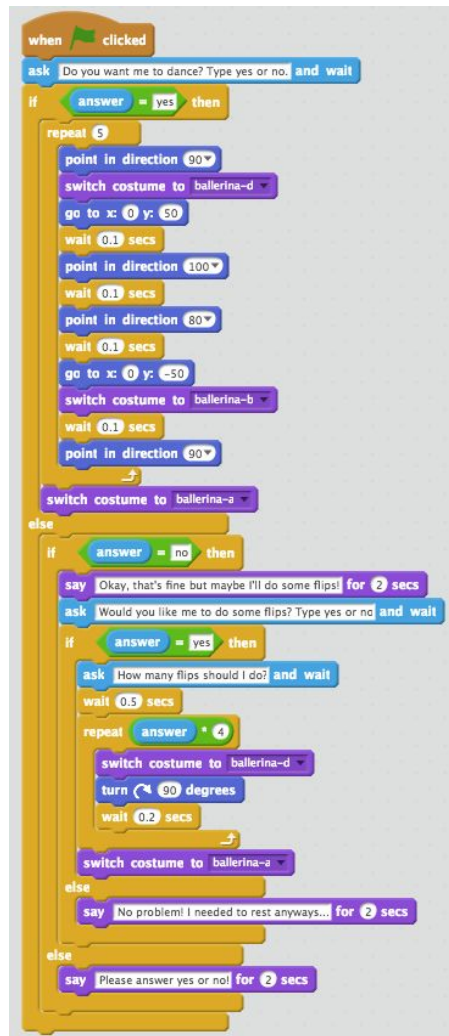
Ask “How many flips should I do?” and do flips

Else:

Say “No problem! I needed to rest anyways...”

Else:

Ask user to please answer yes/no



Choreography with Code



Make your own if statement following instructions on the handout.

Choreography with Code

