Methods
Week 2 Session 6
Methods in SNAP!

- What type of structure would help you if you wanted to reuse some logic you develop with some variation and utility?
- Why are Methods important?
  - Allow using variables to manipulate what results some logic yields
    - Example: telling a sprite what size you want it to change to
  - “Returning/Reporting” a value to whatever code/logic uses the method
    - Example: “asking” a sprite what position it's at
Methods in SNAP!

• Why do we need methods in the first place?
  • Similar uses as loops, but without predefined repetitions of use
  • If you create a very useful series of logic, you may find methods helpful to use this logic you created at any time you like

• How can you create these collections of logic/methods in SNAP?
Methods in SNAP!

• Creating Methods/Custom Blocks in SNAP!
Methods in SNAP!

- Creating Methods/Custom Blocks in SNAP!
- Block layout (placement)
- Name of block
- Type of block
  - Command (returns nothing)
  - Reporter (returns value)
  - Predicate (returns boolean)
Methods in SNAP!

- Creating a Reporter Block in SNAP!
  - Name
  - + (Add Parameters)
  - Logic area
  - Return/Report value
Methods in SNAP!

- Parameters (input to a method/block)
Methods in SNAP!

- Parameters (input to a method/block)
  - Name: Input
  - Type: Any
  - Input may be used anywhere in logic area
Methods in SNAP!

- Reporting (return value of a method/block)

  - Report: “Input”
  - Simplest form of reporting a value, just returns what was sent as parameter “Input”
Methods in SNAP!

- Utilizing (use of a method/custom block)

- This is the same as using just the value 7
- This Method returns whatever value it was given, so 7 is returned just as it is sent as a parameter
- Methods/Custom Blocks can be used for any manner of logic or utility
Methods in SNAP!

- Example Uses:
  - Method to shift a sprite a certain amount
    - Amount to shift sent as a parameter
  - Method to calculate size
    - Sprite reports/returns its size
  - You may need to make code that simplifies numerous calculations for you, and methods provide this functionality
Methods Example

- Note: you can right-click in the script area to make a block
- Make a method with one parameter to shift the Smiley sprite left or right depending on the number value. (negative numbers for left and positive for right)
Methods Example Walkthrough

- Note: you can right-click in the script area to make a block
Methods Example Walkthrough

- Note: click the + to add a parameter
Methods Example Walkthrough

- Note: use the “Steps” parameter in the shift logic
- Note: Input a negative number for shifting left
Methods Assignment

- Note: you can right-click in the script area to make a block

- Make a method with no parameters to grow the sprite by 10% and another to shrink it 10%. Apply these to the “up/down arrow key pressed” blocks given
Methods Assignment Walkthrough

- Note: no parameters or report value needed
Methods Assignment Walkthrough

- Note: no parameters or report value needed