Basic Programming Concepts



Welcome!

```
dotnos=inputs[i].las
 4 const float HIGH TEMP F WARNING=100.:
                                                                                                       Enter the temperature in degrees F : 120
 5 const int MAX LOOP=5.:
                                                                                                      The temperature in Celsius (C) is 48.888889
                                                                                                      The temperature in Celsius (C) is 48.888889
 7 - float temp F to C( float tF ) (
                                                                                                      Remember to hydrate
                                                                                                      Enter the temperature in degrees F : 100
                                                                                                      The temperature in Celsius (C) is 37.777779
11 int main() // Declaration of program
                                                                                                      The temperature in Celsius (C) is 37.777779
                                                                                                      Enter the temperature in degrees F :
     float temp_f; // Declaration of variables that the program will
     float temp_c;
     for(i=0; i<MAX_LOOP; i++){
       scanf("%f",&temp_f);
       printf("The temperature in Celsius (C) is %f\n".temp c): // Output the Celsius result
       printf("The temperature in Celsius (C) is %f\n", temp F to C( temp f )):
       if(temp f > HIGH TEMP F WARNING){ // Check for high temperature
       if(temp_f < LOW_TEMP_F_WARNING ){ // Check for low temperature
```

Who has programmed?



var atpos=inputs[i].indexOf(**) var dotpos=inputs[i].lastIndexM

- ▶ What languages have you tried to program in?
- Do you have a favorite? Why?
- Do you know how to type?
- What computer experience do you have?

document.getElementByIu else

Starting a Program



var atpos=inputs[i].indexOf(")

war dotpos=inputs[i].lastIndexOf(")

- ► The best programmers don't start by coding.
- The best programmers plan first. They write the requirements and generate diagrams to help plan out the code they write.
- ► Then they use this to generate pseudo code.
- ► Then the actual programming begins.

else document.getElemento

Pseudo Code



var atpos=inputs[i].indexOf()

```
File: calc adder.pv
       Description: Calculator to Add two integers.
       Revision: 1.0
       Date: 06DEC2021
       Author: Sparkineer
   , , ,
  # Request two integers from the program user.
11 # Store the first integer.
12 # Store the second integer.
# Add integer1 and integer2.
14 # Display result.
15 # Ask - Quit or Repeat?
```

Variables

Variables are the backbone of all programming languages. They are used to store important information for the programmer. The programmer can then use this stored information at a later point in the program.

NODE 05

Examples

- We store names in memory to recall them later to obtain that person's attention.
- When hiking we store the path color or the the next direction we need to head in memory so when we see the next marker or trail we can make a decision of the direction to head.

Control Structures



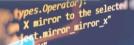


Decision Making (conditionals)

- ▶ If, If/Else: Used to compare variables aganist a value or another variable to make a decision.
- ► Case/Switch: Similar to several stacked single if tests.

Loops (iteration)

- ▶ While loops execute and continue to execute repeated time at the onset and verification of a logical condition. The condition is tested at the start of every loop iteration.
- ► For loops execute for a prescribed number of times, as controlled by a counter or an index.



bpy.context.selected_ob

Pseudo Code

Listing 2: Sample Code Listing Python

```
, , ,
    File: calc adder.py
    Description: Calculator to Add two integers.
    Revision: 1.0
    Date: 06DEC2021
    Author: Sparkineer
. . .
# Request two integers from the program user.
# Store the first integer.
# Store the second integer.
# Add integer1 and integer2.
# Display result.
# Ask - Quit or Repeat?
```

File Header





Listing 3: Sample Code Listing Python

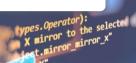
, ,

File: calc adder.py

Description: Calculator to Add two integers.

Revision: 1.0 Date: 06DEC2021 Author: Sparkineer

, , ,



Pseudo Code _mou.use x NODE 05 od.use z = True election at the end -add Listing 4: Sample Code Listing Python Request two integers from the program user. Store the first integer. # Store the second integer. Add integer1 and integer2. Display result. # Ask - Quit or Repeat? NODE OF mirror to the selecter .Operator): t.mirror_mirror_x Joshua Talbot P.E. | Programming Merit Badge

LETS CODE: Implement User Input...



Listing 5: Sample Code Listing Python

```
# Request two integers from the program user.
# Store the first integer.
intA = input("Please enter first integer: ")
# Store the second integer.
intB = input("Please enter second integer: ")
print(intA, "+", intB) # test input
```

LETS CODE: Perform the Math.



Listing 6: Sample Code Listing Python

```
# Add integer1 and integer2.
result = int(intA) + int(intB)
# Display result.
print(intA, "+", intB, "=", result)
# Ask - Quit or Repeat?
```

Addition Calculator



```
File: calc adder.py
    Description: Calculator to Add two integers.
    Revision: 10
    Date: 06DEC2021
    Author: Sparkineer
def main():
   # Request two integers from the program user.
   # Store the first integer.
    intA = input("Please enter first integer: ")
   # Store the second integer.
    intB = input("Please enter second integer: ")
   # Add integer1 and integer2.
    result = int(intA) + int(intB)
    # Display result.
    print(intA , "+" , intB , "=" , result)
    # Ask - Quit or Repeat?
if name == ' main ':
    main()
```



Good Luck with the Programming!

mirror ob.select= 1
modifier ob.select=1
bpy.context.scene.objects.active modifier ob
print("Selected" + str(modifier ob)) \$ modifier ob is the active ob
mirror ob.select = 0
mi