

# Python Project

Save/copy your python files into a folder; each part/program will have its own .py file. Zip the folder. Upload the zip file to Moodle. **Be sure to include your name and class at the top of your python scripts.**

Use python's IDLE *or* your favorite IDE 😊

## Part 1) Grades; If-Else

Create a script that will accept an input value (0 – 100) from a user, determine which letter grade that score will receive, and print() the results. When asking for input, be sure to let the user know what input parameters to enter.

- 'A' = 90+
- 'B' = 80 – 89
- 'C' = 70 – 79
- 'D' = 60 – 69
- 'F' = 0 – 59

```
Enter your score: 65
Your grade is : D

Process finished with exit code 0
```

```
Enter your score: 94
Your grade is : A

Process finished with exit code 0
```

```
Enter your score: 31
You Failed

Process finished with exit code 0
```

### Part 2) While Loop

Create a while loop that will print the John Wayne quote **"Slap some bacon on a biscuit and let's go! We're burnin' daylight!"** five times; each sentence on a separate line.

```
Slap some bacon on a biscuit and let's go! We're burnin' daylight!  
Slap some bacon on a biscuit and let's go! We're burnin' daylight!  
Slap some bacon on a biscuit and let's go! We're burnin' daylight!  
Slap some bacon on a biscuit and let's go! We're burnin' daylight!  
Slap some bacon on a biscuit and let's go! We're burnin' daylight!  
  
Process finished with exit code 0
```

### Part 3) For Loop and Array

Create a list array with 3 string values that are fruits. Print each letter of each fruit using nested for loops. Each letter will be on a new line and indented by one space; " ". Each next word will start back at the left.

```
A  
 p  
  p  
   l  
    e  
 o  
  r  
   a  
    n  
     g  
      e  
 G  
  r  
   a  
    p  
     e  
  
Process finished with exit code 0
```

#### Part 4) Number Guessing Game

Create a script that will: generate a random integer between 1 and 10 (inclusive), ask for user input to guess that number. After each guess, notify the user if the answer is too high, too low, or correct.

```
Guess a number between 1 and 10:  
Guess your number:  
8  
Your guess is too high!  
Guess your number:  
3  
Your guess is too low.  
Guess your number:  
6  
Your guess is too high!  
Guess your number:  
5  
You guessed correctly.  
  
Process finished with exit code 0
```

#### Part 5) Madlibs

Look up what a madlib is if you are unsure. Create a sentence or two with various points for user input(nouns, adjectives, etc.), which is gathered from the user. Use a minimum of three user inputs. Print the final, completed sentence at the end.

```
Enter a noun: ball  
Enter an adjective: orange  
Enter another adjective: sparkly  
My name is ball and I am not orange and I am sparkly  
  
Process finished with exit code 0
```

Part 6) FizzBuzz

Create a script that will iterate over that numbers (10, 25) inclusive. For numbers that are even, print "Fizz"; for numbers that are divisible by 5, print "Buzz"; for numbers divisible by both 2 and 5, print "FizzBuzz". The strings Fizz, Buzz, and FizzBuzz *will* replace the number being iterated.

```
FizzBuzz
```

```
11
```

```
Fizz
```

```
13
```

```
Fizz
```

```
Buzz
```

```
Fizz
```

```
17
```

```
Fizz
```

```
19
```

```
FizzBuzz
```

```
21
```

```
Fizz
```

```
23
```

```
Fizz
```

```
Buzz
```

```
Process finished with exit code 0
```

Part 7)           Area **or** volume of shapes

Ask the user for input regarding dimensions of a shape, calculate what the area **or** volume will be, and print what the area **or** volume of that shape will be. Choose **three** different shapes. You may need to **import math** depending on which formulas you want to use/make.

Python math documentation may be located at: <https://docs.python.org/3/library/math.html>

```
1  import math
2
3
```

```
:: Finding the area of a rectangle ::
Enter the length: 5
Enter the width: 3
The area of the rectangle is 15 units

:: Finding the area of a circle ::
Enter the radius: 4
The area of the circle is 50.26548245743669 units

:: Finding the area of an ellipse ::
Enter the length: 7
Enter the width: 2
The area of the ellipse is 43.982297150257104 units

Process finished with exit code 0
```