Assignment 1

Part 1 - Even or Odd

In this exercise, you are to create a program that asks the user to input an integer. The program will then tell you if you entered an even or odd number.
(hint: Use if-else conditional statements to check what number was entered in the console. Look into the mod (%) operation and find out how you can use it to make the correct checks.)

```
In [36]: runfile('C:/Users/Alejandro Sanchez/Desktop/Coding_Help/Assignment1/A1P1.py', wdir='C:/Users/Alejandro Sanchez/Desktop/
Coding_Help/Assignment1')

Please enter a number: 11
You entered an odd number.

In [37]: runfile('C:/Users/Alejandro Sanchez/Desktop/Coding_Help/Assignment1/A1P1.py', wdir='C:/Users/Alejandro Sanchez/Desktop/
Coding_Help/Assignment1')

Please enter a number: 20
You entered an even number.

In [38]: runfile('C:/Users/Alejandro Sanchez/Desktop/Coding_Help/Assignment1/A1P1.py', wdir='C:/Users/Alejandro Sanchez/Desktop/
Coding_Help/Assignment1')

Please enter a number: -4
You entered an even number.
```

Part 2 - Lists and Copying a List

In this exercise, create a program that initializes a new list. The first list is size 20 and contains 1s. For example, a list of size 5 that contains zeros looks like [0, 0, 0, 0, 0].

Use a for loop to create the list of size 20. Use the append function to set all the values as 1s. Finally print the entire list

This list should look like this in the console.
[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]

After printing the first list, create a second list and use a for loop to copy all the values from the first list to this one.
(hint: create the new list by appending the values from the first list)

The second list should look like this in the console.
[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]

```
In [34]: runfile('C:/Users/Alejandro Sanchez/Desktop/Coding_Help/Assignment1/A1P3.py', wdir='C:/Users/Alejandro Sanchez/Desktop/
Coding_Help/Assignment1')
[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
```

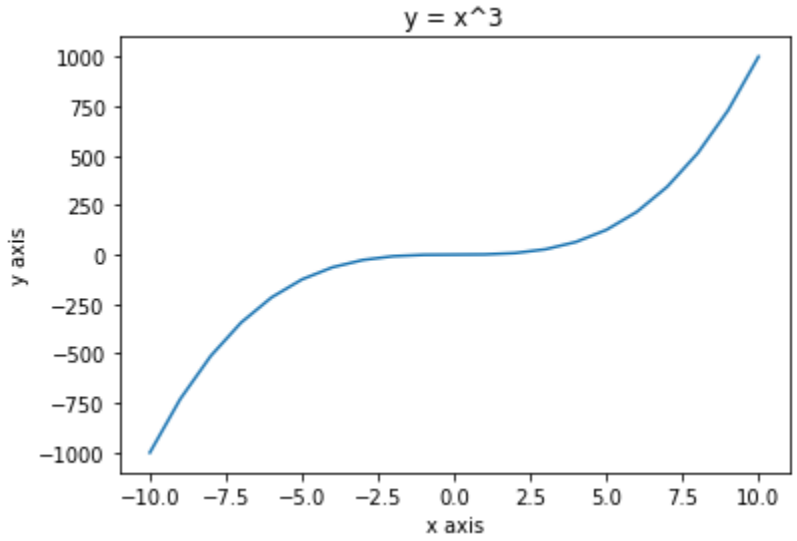
Part 3 - Plotting $y = x^3$ using matplotlib

To make this lab work, you will need to import the matplotlib library.

In this exercise, create a program that plots the function $y = x^3$. The x values (domain) should be from -10 to 10.
(hint: You can initialize a list called x using the range function and a for loop to get these values easily -- for x in range(-10,11))

Use a for loop to create a new list for the y values. After getting all the y values for x^3, plot using the matplotlib library.

The plot should look like the following:



Keep note: the plot must include the shown x and y-axis labels and the title.