Artificial Intelligence with Python

Lab Report 01: Introduction to Python

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In [11]:

```python
# This Python 3 environment comes with many helpful analytics libraries installed
# It is defined by the kaggle/python Docker image: https://github.com/kaggle/docker-python
# For example, here's several helpful packages to load

import numpy as np # linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)

# Input data files are available in the read-only "../input/" directory
# For example, running this (by clicking run or pressing Shift+Enter) will list all files under the input directory

import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))

# You can write up to 20GB to the current directory (/kaggle/working/) that gets preserved as output when you create a version using "Save & Run All"
# You can also write temporary files to /kaggle/temp/, but they won't be saved outside of the current session
```

Define "names" and "height" lists that contain name and height of your friends respectively. Find the total number of entries in list, maximum height, and minimum height with their names and find the average height of your friends

In [12]:

```python
Friends_name = ['sarwar','asif','ahmed','saboor']
Friends_height = [6,5,9,7]
average = sum(Friends_height)/4;
total_entries = len(Friends_name)
Max = max(Friends_height)
Min = min(Friends_height)
Max_index = Friends_height.index(Max)
Min_index = Friends_height.index(Min)
Max_height_person = Friends_name[Max_index]
Min_height_person = Friends_name[Min_index]

print("Total Number of entries in list =",total_entries,",Maximum Hieght =",Max,
"Name =",Max_height_person,",Minimum Height =",Min,"Name =",Min_height_person,",
Average Height =",average)
```

```
Total Number of entries in list = 4 ,Maximum Hieght = 9 Name = ahme
d ,Minimum Height = 5 Name = asif ,Average Height = 6.75
```

Develop a BMI function in python programming language that gets the weight and height as inputs and show that whether input user is underweight, normal weight, overweight or obese.

In [13]:

```python
def BMI(weight,height):
    height_m = float(height)/3.281
    bmi = float(weight)/(height_m**2);
    print("BMI is",bmi)
    if bmi <= 18.5:
        print("Underweighted")
    elif bmi > 18.5 and bmi <= 24.9:
        print("Normalweight")
    elif bmi >= 25 and bmi <= 29.9:
        print("overweight")
    else:
        print("obese")
we = input ("Enter the weight")
he = input ("Enter the height")
BMI(we,he)
```

```
BMI is 19.436735138888892
Normalweight
```

Write a function that takes input a number, which is temperature in degree Celsius and return the temperature in kelvin and Fahrenheit

In [14]:

```python
def tepm(temperature):
    temp_kelvin = float(temperature)+273.15
    print("Temperature in Kelvin is ",temp_kelvin)
    temp_fahrenheit = float(temperature)*(9/5)+32
    print("Temperature in Fahrenheit is ",temp_fahrenheit )
tmp = input ("Enter temperature in degree Celsius")
tepm(tmp)
```

```
Temperature in Kelvin is  303.15
Temperature in Fahrenheit is  86.0
```

Create a list of even numbers and odd numbers with the help of for loop and append function. Than combine both lists together.

In [15]:

```python
L1 = []
L2 = []
L3 = []
num = input ("Print Odd and Even Numbers Until = ")
num = int(num)
for i in range(num):
    if(i%2==0):
        L1.append(i)
        print(L1)
    elif(i%2==1):
        L2.append(i)
        print(L2)
L3.extend(L1)
L3.extend(L2)
L3.sort()
L3
```

```
[0]
[1]
[0, 2]
[1, 3]
[0, 2, 4]
[1, 3, 5]
[0, 2, 4, 6]
[1, 3, 5, 7]
[0, 2, 4, 6, 8]
[1, 3, 5, 7, 9]
[0, 2, 4, 6, 8, 10]
[1, 3, 5, 7, 9, 11]
[0, 2, 4, 6, 8, 10, 12]
[1, 3, 5, 7, 9, 11, 13]
[0, 2, 4, 6, 8, 10, 12, 14]
```

Out[15]:

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]
```