Programming for Data Analytics

Instructions:

The objective of these practical exercises is to familiarise yourself with Spyder and write basic Python programs.

1. **Using Python in Interactive Mode**

   a) Try the following command in Pythons interactive mode.
   >>> print ("hello there")

   >>> print ('hello world')

   >>> print (23)

   >>> print (5445.33)

   b) Create a String variable to store you name and an int variable to store your age. Using a single print statement print this information to the screen

2. **Use Python in Script Mode**

   a) Using script mode write a program that will output the text "Hello There" to screen
   b) Create a String variable to store your name and an int variable to store your age. Print this out to screen using the Script mode.

3. Write a program that asks the user to enter a distance in kilometres and then converts that distance to miles (Miles = Kilometres * 0.6214).

4. Write a program that will ask a student for their first name and then for their surname. It should then ask the student to enter the int numerical grade they received in each of their three subjects.

   The program should then print out the full name of the student along with their average numerical grade (Use only a single print statement)

5. Write a program to calculate and display a person's body mass index (BMI). A persons BMI is calculated with the following formula:

   - BMI = (weight/ height^2) * 703

   Where weight in in pounds and height in in inches. Your program should ask the user for their weight (in pounds) and height (in inches).

6. There are three seating categories at a stadium. For a football games, Class A seat's cost €25, Class B seat's cost €20 and Class C seat's cost €30. Write a program that asks how many tickets for each class of seats were sold, and then display the amount of income generated from ticket sales.

Solutions:

```
# -*- coding: utf-8 -*-
"""
Solution for Week 1 Labs

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"""



# Question 2

print ("Hello there")

name = "Haithem Afli"
age = 33

print ("Name is ", name, " and age is ",age)



# Question 3

kms = int(input("Please enter distance is kms "))
miles = kms* 0.6214

print (kms, "kms equates to ", miles, " miles")



# Question 4

firstName = input("Please enter first name")
surname = input("Please enter surname")

grade1 = int(input("Please enter grade for first subject"))
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```
grade2 = int(input("Please enter grade for second subject"))
grade3 = int(input("Please enter grade for third subject"))

averageGrade = (grade1+grade2+grade3)/3

print (firstName, " ", surname, " has an average grade of ", averageGrade)


# Question 5

weight = int(input("Please enter weight in pounds"))
height = int(input("Please enter height in inches"))

print ("BMI Value is ", (weight/(height**2)*703))



# Question 6


soldCatA = int(input("Enter number of ticketssold for category A"))
soldCatB = int(input("Enter number of ticketssold for category B"))
soldCatC = int(input("Enter number of ticketssold for category C"))

print ("Total income is ", (soldCatA*25)+(soldCatB*20)+(soldCatA*30))
```