Python Assignment 1

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Question 1

Write a Python program to find average of three numbers entered by the user.

```
1
2   Question_1="Write a Python program to find average of three numbers"\
3       "entered by the user."
4
5   print(Question_1,"\n")
6
7   N1=int(input("Enter the first number = "))
8
9   N2=int(input("Enter the second number = "))
10
11  N3=int(input("Enter the third number = "))
12
13  Avg =((N1+N2+N3)/3)
14
15  print("The average of the three entered numbers is ", Avg)
```

```
In [3]: runfile('C:/Users/Angad/.spyder-py3/temp.py', wdir='C:/Users/Angad/.spyder-py3')
Write a Python program to find average of three numbers entered by the user.

Enter the first number = 30
Enter the second number = 40
Enter the third number = 50
The average of the three entered numbers is  40.0
```

Question 2

Write a python program to compute a person's income tax. Assume following tax laws:

- All taxpayers are charged a flat tax rate of 20%.
- All taxpayers are allowed a $10,000 standard deduction.
- For each dependent, a taxpayer is allowed an additional $3,000 deduction.
- Gross income must be entered to the nearest penny.

Gross Income and the number of dependents must be asked from the user.
Hint:
Taxable income = GrossIncome - Standard deduction - (Dependent deduction * No. of dependents)

```python
print("Question 2 : Tax calculation","\n")

Gross_Income=int(input("Enter the Gross income of the tax payer ="))

Num_Dependents=int(input("Enter the number of dependents of the taxpayer ="))

Standard_Deduction=10000

Dependent_Deduction=3000

Taxable_income=(Gross_Income)-Standard_Deduction-(Dependent_Deduction*Num_Dependents)

Tax = (Taxable_income *20)/100

print("The Tax to be paid is " , Tax)
```

```
In [8]: runfile('C:/Users/Angad/untitled1.py', wdir='C:/Users/Angad')
Question 2 : Tax calculation

Enter the Gross income of the tax payer =54000
Enter the number of dependents of the taxpayer =3
The Tax to be paid is  7000.0
```

Question 3

Write a program that asks the user for a number of seconds and prints out how many minutes and seconds that is. For instance, 200 seconds is 3 minutes and 20 seconds.

```python
Question_3="Write a program that asks the user for a number of seconds and"\
    "prints out how many minutes and seconds that is."\
        "For instance, 200 seconds is 3 minutes and 20 seconds."

print(Question_3,"\n")


Time = int(input("Enter the time in seconds: "))
print("")

Sec_minute = 60

print("Minutes =", Time//Sec_minute)

print("Seconds =", Time % Sec_minute)

print("Time in minutes and seconds is ",Time//Sec_minute,"minutes and",Time % Sec_minute,"seconds")
```

```
In [14]: runfile('C:/Users/Angad/untitled2.py', wdir='C:/Users/Angad')
Write a program that asks the user for a number of seconds andprints out how many
minutes and seconds that is.For instance, 200 seconds is 3 minutes and 20
seconds.

Enter the time in seconds: 436

Minutes = 7
Seconds = 16
Time in minutes and seconds is  7 minutes and 16 seconds
```

Question 4

Write a python program to add three numbers 25+’25’+25.0 and produce result 75 as string.

```
1   Question_4="Write a python program to add three numbers"\
2       "25+’25’+25.0 and produce result 75 as string."
3
4   print(Question_4,"\n")
5
6
7
8   Number_1=25
9   Number_2=25.0
10  Number_3='25'
11
12  Number_4=int(Number_1)+int(Number_2)+int(Number_3)
13
14  Number_4=str(Number_4)
15
16
17  print(Number_4,type(Number_4))
```

```
In [15]: runfile('C:/Users/Angad/untitled3.py', wdir='C:/Users/Angad')
Write a python program to add three numbers25+’25’+25.0 and produce result 75 as
string.

75 <class 'str'>
```

Question 5

Write a program that prints out the sine and cosine of the angles ranging from 0 to 345◦ in 15◦ increments. Each result should be rounded to 4 decimal places.

```
Question_5= "Write a program that prints out the sine and cosine of the angles"\
    "ranging from 0 to 345◦ in 15◦ increments."\
        "Each result should be rounded to 4 decimal places."

print(Question_5,"")

import math


for i in range(0,360,15):


        sine_value=math.sin(math.radians(i))

        cosine_value=math.cos(math.radians(i))

        print("sin",i,"=",round(sine_value,4),"    cos",i,"=",round(cosine_value,4))

```

```
In [16]: runfile('C:/Users/Angad/untitled4.py', wdir='C:/Users/Angad')
Write a program that prints out the sine and cosine of the anglesranging from 0
to 345◦ in 15◦ increments.Each result should be rounded to 4 decimal places.
sin 0 = 0.0     cos 0 = 1.0
sin 15 = 0.2588     cos 15 = 0.9659
sin 30 = 0.5     cos 30 = 0.866
sin 45 = 0.7071     cos 45 = 0.7071
sin 60 = 0.866     cos 60 = 0.5
sin 75 = 0.9659     cos 75 = 0.2588
sin 90 = 1.0     cos 90 = 0.0
sin 105 = 0.9659     cos 105 = -0.2588
sin 120 = 0.866     cos 120 = -0.5
sin 135 = 0.7071     cos 135 = -0.7071
sin 150 = 0.5     cos 150 = -0.866
sin 165 = 0.2588     cos 165 = -0.9659
sin 180 = 0.0     cos 180 = -1.0
sin 195 = -0.2588     cos 195 = -0.9659
sin 210 = -0.5     cos 210 = -0.866
sin 225 = -0.7071     cos 225 = -0.7071
sin 240 = -0.866     cos 240 = -0.5
sin 255 = -0.9659     cos 255 = -0.2588
sin 270 = -1.0     cos 270 = -0.0
sin 285 = -0.9659     cos 285 = 0.2588
sin 300 = -0.866     cos 300 = 0.5
sin 315 = -0.7071     cos 315 = 0.7071
sin 330 = -0.5     cos 330 = 0.866
sin 345 = -0.2588     cos 345 = 0.9659
```