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Subject : Python

Assignment_1

Ans_1 .



The image shows a code editor window with a file named 'Assignment_1_Q1.py' and a Windows PowerShell terminal window below it. The code in the editor calculates the average of three numbers entered by the user. The terminal shows the execution of the script with the following input and output:

```
Assignment_1_Q1.py
1  #taking input from user in integer form
2  num1_by_user = int(input("Enter the 1st number:"))
3  num2_by_user = int(input("Enter the 2nd number:"))
4  num3_by_user = int(input("Enter the 3rd number:"))
5
6  # Average = (sum of all number)/ total number of elements
7  avg = int((num1_by_user + num2_by_user + num3_by_user) / 3)
8
9  print("Average of numbers entered =", avg )
10

Windows PowerShell
PS D:\Python\Assignment 1> python Assignment_1_Q1.py
Enter the 1st number:50
Enter the 2nd number:100
Enter the 3rd number:1000
Average of numbers entered = 383
PS D:\Python\Assignment 1>
```

Ans_2 .

```
Assignment_1_Q2.py
1 # Finding input Gross Income and number of dependents
2 gross_income = float(input("Enter the taxpayer's Gross Income (in $): "))
3 numbers_of_dependents = int(input("Enter number of dependents: "))
4
5 # For calculating and printing Tax
6 standard_deduction = 10000 #to be charged on all taxpayers in $
7 dependent_deduction = 3000 # in $
8 taxable_income = gross_income - standard_deduction - (dependent_deduction * numbers_of_dependents)
9 tax = taxable_income * 0.2 # 20% tax rate chared on all taxpayers
10 print("Tax is:", tax)
11
```

Windows PowerShell

```
PS D:\Python\Assignment 1> python Assignment_1_Q2.py
Enter the taxpayer's Gross Income (in $): 90000
Enter number of dependents: 4
Tax is: 13600.0
PS D:\Python\Assignment 1>
```

Ans_3 .

```
Assignment_1_Q3.py
1 # Code to input the number the seconds
2 seconds = int(input("Enter the number of seconds to be converted: "))
3
4 # Code to calculate and print number of seconds and minutes
5 #For minutes
6 minutes = seconds // 60 #floor division operator is used
7 #For remaining seconds
8 remaining_seconds = seconds % 60 #Modulus operator is used
9 print("Minutes :", minutes)
10 print("Seconds :", remaining_seconds)
11
```

Windows PowerShell

```
PS D:\Python\Assignment 1> python Assignment_1_Q3.py
Enter the number of seconds to be converted: 500
Minutes : 8
Seconds : 20
PS D:\Python\Assignment 1>
```

Ans_4 .

```
Assignment_1_Q4.py
1  #writing a code to add 25 , '25' and 25.0 and give a string output as 75
2  addition = 25 + int('25') + int(25.0) #using int() to convert string and float into integer
3  print(str(addition)) #using str() to convert the everything into string
4
```

```
Windows PowerShell
PS D:\Python\Assignment 1> python Assignment_1_Q4.py
75
PS D:\Python\Assignment 1>
```

Ans_5 .

```
Assignment_1_Q5.py
1  import math      #Importing maths modules in order to use sine and cosine function.
2  a = 0
3  while a <= 345 :    #making a Loop each of 15 degree angle.
4      sin_a = math.sin(math.radians(a))
5      cos_a = math.cos(math.radians(a))
6      print(str(a) + " --- " + str(round(sin_a , 4)) + " , " + str(round(cos_a , 4)))
7      a += 15
8
```

```
Windows PowerShell
PS D:\Python\Assignment 1> python Assignment_1_Q5.py
0 --- 0.0 , 1.0
15 --- 0.2588 , 0.9659
30 --- 0.5 , 0.866
45 --- 0.7071 , 0.7071
60 --- 0.866 , 0.5
75 --- 0.9659 , 0.2588
90 --- 1.0 , 0.0
105 --- 0.9659 , -0.2588
120 --- 0.866 , -0.5
135 --- 0.7071 , -0.7071
150 --- 0.5 , -0.866
165 --- 0.2588 , -0.9659
180 --- 0.0 , -1.0
195 --- -0.2588 , -0.9659
210 --- -0.5 , -0.866
225 --- -0.7071 , -0.7071
240 --- -0.866 , -0.5
255 --- -0.9659 , -0.2588
270 --- -1.0 , -0.0
285 --- -0.9659 , 0.2588
300 --- -0.866 , 0.5
315 --- -0.7071 , 0.7071
330 --- -0.5 , 0.866
345 --- -0.2588 , 0.9659
PS D:\Python\Assignment 1>
```

