PYTHON ASSIGNMENT-1

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

Ans -1

```
n1=int(input("enter the value of first number= "))
n2=int(input("enter the value of second number= "))
n3=int(input("enter the value of third number= "))
a= (n1+n2+n3)/3
print("Average of three numbers is:",a)
```

```
enter the value of first number= 12
enter the value of second number= 23
enter the value of third number= 34
Average of three numbers is: 23.0
```

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 = Gross Income - Standard deduction -
(Dependent deduction
* No. of dependents)
Tax = Taxable Income * Tax Rate

Ans-2

```
n1= int(input("enter the gross income: "))
n2= int(input("enter the number of dependents: "))
tax_rate= 0.20
standard_deduction= 10000
dependent_deduction= 3000
taxable_income= n1-standard_deduction-
(dependent_deduction*n2)
tax= taxable_income*tax_rate
print("the tax is: ",tax)
```

```
enter the gross income: 100000
enter the number of dependents: 5
the tax is:  15000.0
```

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. [Hint: Use the //operator to get minutes and the % operator to get seconds.]

Ans-3

""" %= gives remainder

// = round of result to left side of number line """

```
a= int(input("enter time in seconds: "))

print("time in minutes is",a//60,"minutes" ,a%60, "seconds")
```

```
enter time in seconds: 400
time in minutes is 6 minutes 40 seconds
```

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

Ans-4

```
a=25

b='25'

c=25.0

print(str(a+int(b)+int(c)))
```

```
75
```

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.

Ans-5

```
import math

a=0
```

```
while a<= 345:
    sin_a= math.sin(math.radians(a))
    cos_a = math.cos(math.radians(a))
    print(str(a)+ "---" + str(round(sin_a , 4))+" "+ str(round(cos_a , 4)))
    a+=15
```

```
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
```