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INTRODUCTION TO COMPUTING

ASSIGNMENT 1

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

Ans.

```
number1 = int (input("Enter the First Number: "))
number2 = int (input("Enter the Second Number: "))
number3 = int (input("Enter the Third Number: "))
average = (number1 + number2 + number2) / 3
print("The average of 3 numbers is", average)
```

```
[ ]  number1 = int (input("Enter the First Number: "))
     number2 = int (input("Enter the Second Number: "))
     number3 = int (input("Enter the Third Number: "))
     average = (number1 + number2 + number2) / 3
     print("The average of 3 numbers is", average)

     Enter the First Number: 4
     Enter the Second Number: 3
     Enter the Third Number: 6
     The average of 3 numbers is 3.3333333333333335
```

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.

Ans.

```
grossinc = float(input ("Please enter your gross income: "))
dependents = int(input ("Please enter the number of dependents "))
taxable = grossinc - 10000 - (3000*dependents)
tax = 0.2*taxable
print("The tax to be paid by you is: ", tax)
```

```
[ ]  grossinc = float(input ("Please enter your gross income: "))
     dependents = int(input ("Please enter the number of dependents "))
     taxable = grossinc - 10000 - (3000*dependents)
     tax = 0.2*taxable
     print("The tax to be paid by you is: ", tax)

     Please enter your gross income: 200000
     Please enter the number of dependents 3
     The tax to be paid by you is:  36200.0
```

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.

Ans.

```
seconds = int(input("Enter the number of seconds: "))
min = seconds // 60
sec = seconds % 60
print(f"There are {(min)} minutes and {(sec)} seconds in {(seconds)} seconds")
```

```
[ ] seconds = int(input("Enter the number of seconds: "))
    min = seconds // 60
    sec = seconds % 60
    print(f"There are {(min)} minutes and {(sec)} seconds in {(seconds)} seconds")

    Enter the number of seconds: 200
    There are 3 minutes and 20 seconds in 200 seconds
```

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

Ans.

```
a=25
b='25'
c=25.0
b0=int(b)
c0=int(c)
answer = a+b0+c0
d = str(answer)
print(d)
```

```
a=25
b='25'
c=25.0
b0=int(b)
c0=int(c)
answer = a+b0+c0
d = str(answer)
print(d)

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.

```
import math
for x in range(0,346,15):
 print (x,"---", round(math.sin(x),4)," ", round(math.cos(x),4))
```

```
import math
for x in range(0,346,15)
 print (x,"---", round(math.sin(x),4)," ", round(math.cos(x),4))
```

```
0 --- 0.0   1.0
15 --- 0.6503   -0.7597
30 --- -0.988   0.1543
45 --- 0.8509   0.5253
60 --- -0.3048   -0.9524
75 --- -0.3878   0.9218
90 --- 0.894   -0.4481
105 --- -0.9705   -0.241
120 --- 0.5806   0.8142
135 --- 0.0884   -0.9961
150 --- -0.7149   0.6993
165 --- 0.9978   -0.0663
180 --- -0.8012   -0.5985
195 --- 0.2195   0.9756
210 --- 0.4677   -0.8839
225 --- -0.9301   0.3673
240 --- 0.9454   0.3258
255 --- -0.5064   -0.8623
270 --- -0.176   0.9844
285 --- 0.7739   -0.6333
300 --- -0.9998   -0.0221
315 --- 0.7451   0.6669
330 --- -0.1324   -0.9912
345 --- -0.544   0.8391
```