

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)
```

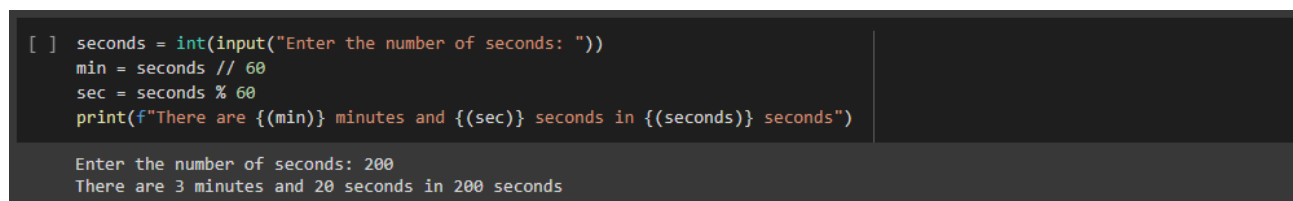
```
[ ] grossinc = float(input ("Please enter your gross income: "))
    dependents = int(input ("Please enter the number of dependents "))
    taxable = grossinc - 10000 - (3000*dependents)
    tax = 0.2*taxable
    print("The tax to be paid by you is: ", tax)
```

```
Please enter your gross income: 20000
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