```python
# Q1            SID(21107052)
# Python program for finding average of three numbers
# asking user for input of 3 numbers whose average needs to be calculated
num1=int(input("enter the first number : "))
num2=int(input("enter the second number : "))
num3=int(input("enter the third number : "))
#then we calculate the average of these 3 numbers
average=(num1 + num2 + num3)/3
#printing the average and rounding to 2 deciaml places
print("the average of 3 numbers is : " , round(average , 2 ))

```

input

```
enter the first number : -2
enter the second number : 5
enter the third number : 7
the average of 3 numbers is :  3.33


...Program finished with exit code 0
Press ENTER to exit console.
```

```python
# Q2            SID(21107052)
# python program for finding total tax to be paid by a family
# first we ask user for their gross income
income=int(input("what is your gross income? "))

#then we ask user for their family size including user
size = int(input("what is the size of your family? "))

#then we calculate the amount on which tax is applicable
taxamount = income-10000-((size-1)*3000)

#then we find tax amount by multiplying by tax rate(20%)
tax= taxamount*(20/100)

# we need to use a condition to prevent printing of negative tax
if tax >= 0 :
    print("the total tax to be paid is : " , tax , end='$')
else:
    print("no tax to be paid")

```

input

```
what is your gross income? 20000
what is the size of your family? 3
the total tax to be paid is :  800.0$

...Program finished with exit code 0
Press ENTER to exit console.
```

```python
# Q3            SID(21107052)
# python program for converting seconds into minutes
# we ask user for input of seconds to be converted
initialtime=int(input(" enter the number of seconds : "))

#we then divide that by 60 and take quotient and remainder using // and % operators
mins=initialtime // 60
secs=initialtime % 60

#then we print the converted time
print(initialtime , "seconds = " , mins , "minutes and" , secs , "seconds")


```

input

```
 enter the number of seconds : 67
67 seconds =  1 minutes and 7 seconds


...Program finished with exit code 0
Press ENTER to exit console.
```

```python
# Q4            SID(21107052)
# python program for data type conversion
# we need to convert all those to integers to be able to add them
a=int(25)
b=int('25')
c=int(25.0)

# adding them and assigning them as string
sum= str(a+b+c)

# printing the sum and class which tells it is a string
print(sum)
print(type(sum))

```

input

```
75
<class 'str'>


...Program finished with exit code 0
Press ENTER to exit console.
```

```python
# Q5        SID(21107052)
# python program for printing sines and cosines of angles from 0 to 345 degrees with increment of 15 degrees
# first we need to import math library for using sin and cos functions
import math

# then we give initial value to angle variable
angle=0

# we start the loop for printing sin and cos of angle
while angle <= 345 :
    #we print sin and cos of 1st angle ie. 0 degree by converting into radians and rounding to 4 decimal places
    print(angle , "---" , round(math.sin((angle*math.pi)/180) , 4) , round(math.cos((angle*math.pi)/180) , 4))

    #now we increment the angle by 15 degrees
    angle=angle+15

```

input

```
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


...Program finished with exit code 0
```