

Programming Laboratory-I

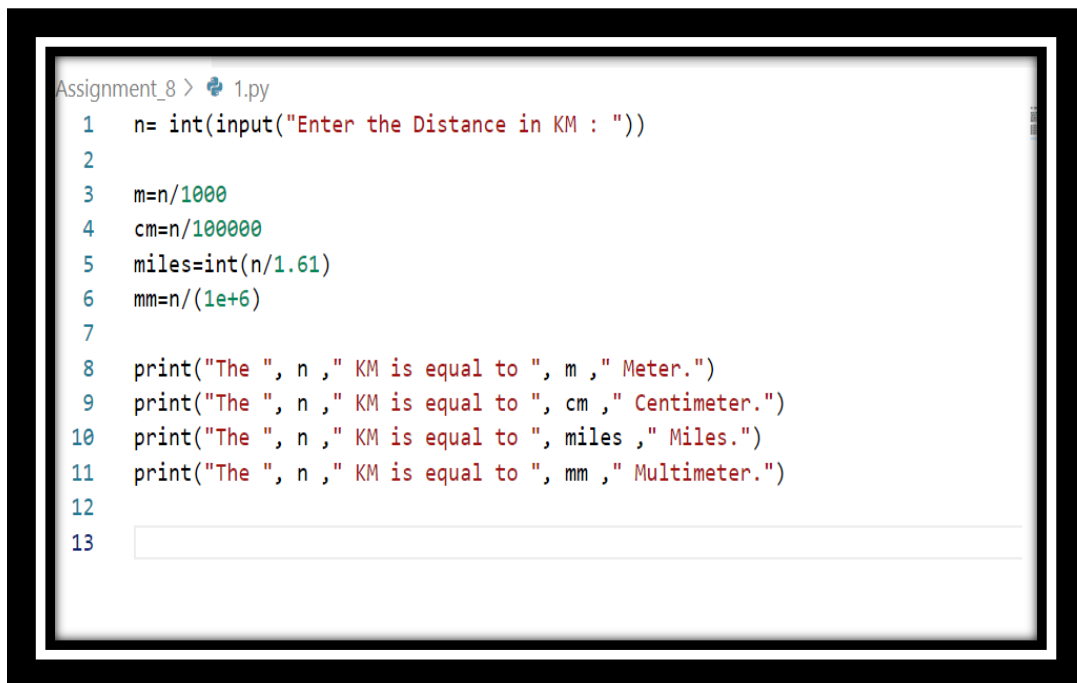
Assignment No-8

(Python basics)

2020BTECS00005

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1. Write a python program to convert user entered data in Kilometers into meter, centimeter, miles and millimeters.

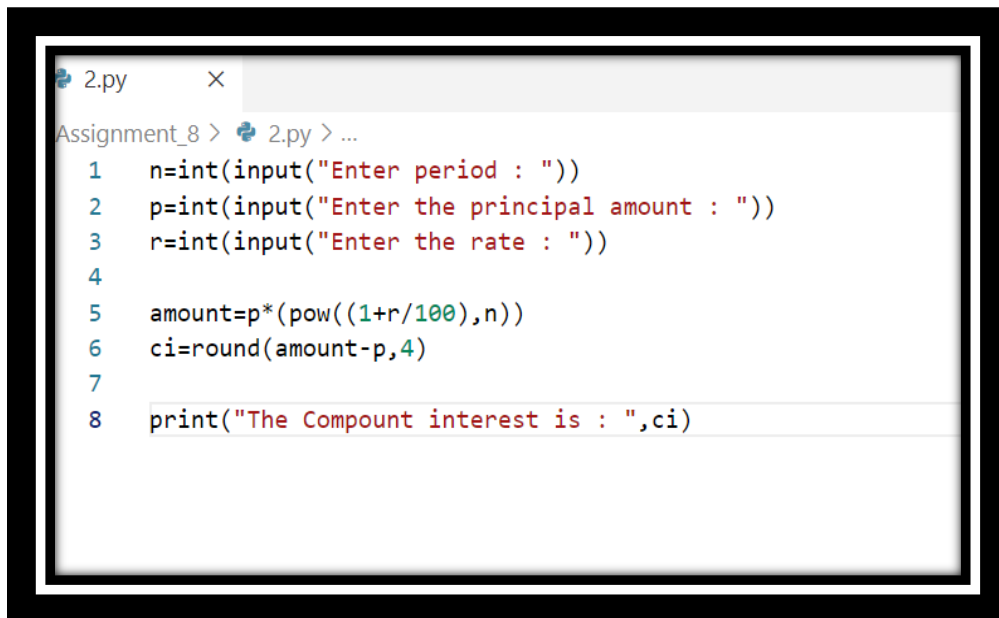
A screenshot of a Python IDE window titled 'Assignment_8 > 1.py'. The code is as follows:

```
1 n= int(input("Enter the Distance in KM : "))
2
3 m=n/1000
4 cm=n/100000
5 miles=int(n/1.61)
6 mm=n/(1e+6)
7
8 print("The ", n , " KM is equal to ", m , " Meter.")
9 print("The ", n , " KM is equal to ", cm , " Centimeter.")
10 print("The ", n , " KM is equal to ", miles , " Miles.")
11 print("The ", n , " KM is equal to ", mm , " Multimeter.")
12
13
```

OUTPUT:

```
Enter the Distance in KM : 2000
The 2000 KM is equal to 2.0 Meter.
The 2000 KM is equal to 0.02 Centimeter.
The 2000 KM is equal to 1242 Miles.
The 2000 KM is equal to 0.002 Multimeter.
```

2. Write a python program to calculate compound interest annually.

A screenshot of a Python IDE window titled '2.py'. The code is as follows:

```
Assignment_8 > 2.py > ...
1  n=int(input("Enter period : "))
2  p=int(input("Enter the principal amount : "))
3  r=int(input("Enter the rate : "))
4
5  amount=p*(pow((1+r/100),n))
6  ci=round(amount-p,4)
7
8  print("The Compound interest is : ",ci)
```

OUTPUT:

```
Enter period : 2
Enter the principal amount : 200000
Enter the rate : 12
The Compound interest is : 50880.0
```

3. Insert two decimal numbers from user, perform addition, subtraction, multiplication and division. Display the result in Decimal, Binary, Octal and hexadecimal.

```
Assignment_8 > 3.py > ...
1  num1 =int (input("Enter the First Number: "))
2  num2 =int (input("Enter the Second Number: "))
3
4  add=num1+num2
5  sub=num2-num1
6  div=int(num2/num1)
7  mult=num1*num2
8
9  print("Decimal Representation of Addition: ",add)
10 print("Binary Representation of Addition: ",bin(add))
11 print("Hexadecimal Representation of Addition: ",hex(add))
12 print("Octal Representation of Addition: ",oct(add))
13
14 print(sub,bin(sub),hex(sub),oct(sub))
15 print(mult,bin(mult),hex(mult),oct(mult))
16 print(div,bin(div),hex(div),oct(div))
```

OUTPUT:

Enter the First Number: 23
Enter the Second Number: 12
Decimal Representation of Addition: 35
Binary Representation of Addition: 0b100011
Hexadecimal Representation of Addition: 0x23
Octal Representation of Addition: 0o43

4. Insert Weight (Kg) and Height (cm) from user and calculate BMI.

```
assignment_8 > 4.py > ...
1
2 Weight =int(input("Enter the Weight of the User in kg: "))
3 Height =float(input("Enter the Height of the User in m: "))
4
5 BMI= round(Weight/pow(Height,2),4)
6 print("The BMI is ",BMI)
```

OUTPUT:

Enter the Weight of the User in kg: 64
Enter the Height of the User in m: 1.732
The BMI is 21.3346

5. Write a python program to assign value to a variable of following data type also print its values along with its data type.
- a) Tuple
 - b) Byte
 - c) Bytearray
 - d) Set
 - e) Frozenset

```
5.py ×
Assignment_8 > 5.py > ...
1  # Tuple
2  vowels = ('a', 'e', 'i', 'o', 'u')
3  print(type(vowels))
4
5  # Bytes
6  st="Welcome Guys.."
7  arr=bytes(st,'utf-8')
8  print(type(arr))
9
10 # Bytesarray
11 arr1=bytearray(st,'utf-16')
12 print(type(arr1))
13
14 # Set
15 myset={"apple","banana","cherry"};
16 print(type(myset))
17
18 # Frozen set
19 fSet = frozenset(vowels)
20 print('The frozen set is:', type(fSet))
21
```

OUTPUT:

```
('a', 'e', 'i', 'o', 'u')
<class 'tuple'>
```

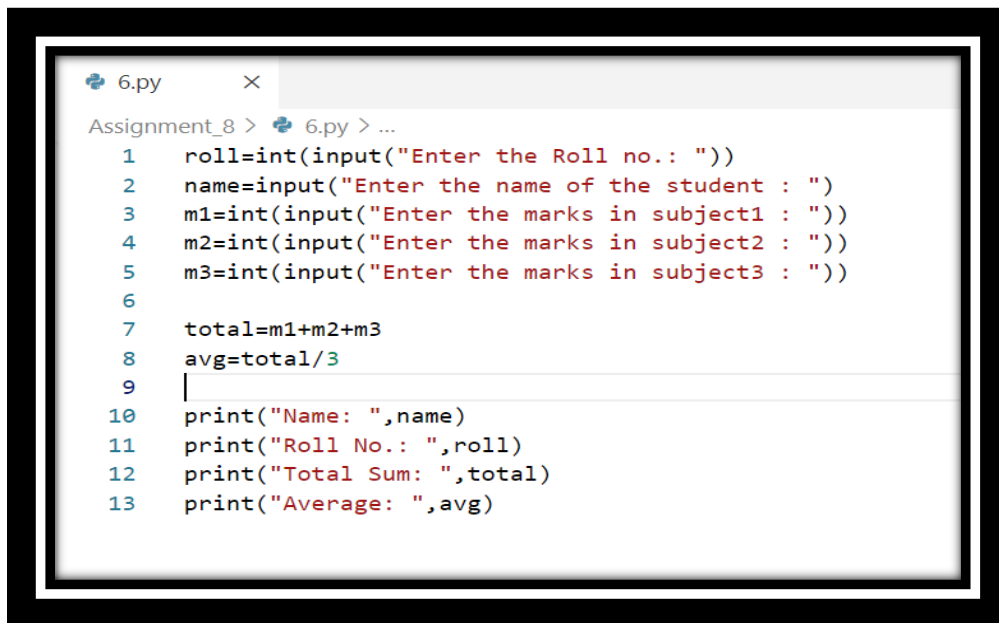
```
b'Welcome Guys..'
<class 'bytes'>
```

```
bytearray(b'\xff\xfeW\xe\x01\x0c\x00m\xe\x00\x0G\x00u\x0y\x0s\x0.\x0.\x0')
<class 'bytearray'>
```

```
{'cherry', 'apple', 'banana'}
<class 'set'>
```

```
frozenset({'o', 'i', 'a', 'u', 'e'})
<class 'frozenset'>
```

6. Write a program to insert student details from user (Roll no, Name, Marks of 3 subject) and display total and average.



```
6.py
Assignment_8 > 6.py > ...
1  roll=int(input("Enter the Roll no.: "))
2  name=input("Enter the name of the student : ")
3  m1=int(input("Enter the marks in subject1 : "))
4  m2=int(input("Enter the marks in subject2 : "))
5  m3=int(input("Enter the marks in subject3 : "))
6
7  total=m1+m2+m3
8  avg=total/3
9
10 print("Name: ",name)
11 print("Roll No.: ",roll)
12 print("Total Sum: ",total)
13 print("Average: ",avg)
```

OUTPUT:

```
Enter the Roll no.: 05
Enter the name of the student : Sanket
Enter the marks in subject1 : 98
Enter the marks in subject2 : 97
Enter the marks in subject3 : 98
Name: Sanket
Roll No.: 5
Total Sum: 293
Average: 97.67
```