Python Lab session 3 (30-12-2020)

Exercise - 2

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MCA I-Sem (R)

Submission Date :- 07-Jan-2021

Exercise01.py - H:\##MCA_Python\Python Assignments\Exercise01.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:1> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to enter two integers and then perform all arithmetic operations on them.

print("\n Output of Prog_No:1 in Ex_No:2 implemented by Purushottam Kumar :\n")
x=int(input(" Enter First Number : "))
y=int(input(" Enter Second Number : "))
summ = x+y
diff = x-y
product = x*y
div = x/y
intdiv = x//y
exponent = x**y
modulus = x%y
print("\n Sum : ("+str(x) + " + " + str(y) +") = " + str(summ))
print("\n Difference : ("+str(x) + " - " + str(y) +") = " + str(diff))
print("\n Product : ("+str(x) + " x " + str(y) +") = " + str(product))
print("\n Division : ("+str(x) + "/" + str(y) +") = " + str(div))
print("\n Integer Division : ("+str(x) + "//" + str(y) +") = " + str(intdiv))
print("\n Exponent : ("+str(x) + "^"+ str(y) +") = " + str(x**y))
print("\n Modulus : ("+str(x) + " % " + str(y) +") = " + str(x%y))
```

OUTPUT

```
========== RESTART: H:/##MCA_Python/Python Assignments/Exercise01.py ==========

 Output of Prog_No:1 in Ex_No:2 implemented by Purushottam Kumar :

 Enter First Number : 10
 Enter Second Number : 4

 Sum : (10 + 4) = 14

 Difference : (10 - 4) = 6

 Product : (10 x 4) = 40

 Division : (10/4) = 2.5

 Integer Division : (10//4) = 2

 Exponent : (10^4) = 10000

 Modulus : (10 % 4) = 2
>>>
```

Exercise02.py - H:/##MCA_Python/Python Assignments/Exercise02.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:2> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to enter two float and then perform all arithmetic operations on them.

print("\n Output of Prog_No:2 in Ex_No:2 implemented by Purushottam Kumar :\n")
x=float(input(" Enter First Number : "))
y=float(input(" Enter Second Number : "))
summ = x+y
diff = x-y
product = x*y
div = x/y
intdiv = x//y
exponent = x**y
modulus = x%y
print("\n Sum : ("+str(x) + " + " + str(y) +") = " + str(summ))
print("\n Difference : ("+str(x) + " - " + str(y) +") = " + str(diff))
print("\n Product : ("+str(x) + " x " + str(y) +") = " + str(product))
print("\n Division : ("+str(x) + "/" + str(y) +") = " + str(div))
print("\n Integer Division : ("+str(x) + "//" + str(y) +") = " + str(intdiv))
print("\n Exponent : ("+str(x) + "^"+ str(y) +") = " + str(x**y))
print("\n Modulus : ("+str(x) + " % " + str(y) +") = " + str(x%y))
```

OUTPUT

```
============== RESTART: H:\##MCA_Python\Python Assignments\Q_2.py ==============

 Output of Prog_No:2 in Ex_No:2 implemented by Purushottam Kumar :

 Enter First Number : 6.25
 Enter Second Number : 0.5

 Sum : (6.25 + 0.5) = 6.75

 Difference : (6.25 - 0.5) = 5.75

 Product : (6.25 x 0.5) = 3.125

 Division : (6.25/0.5) = 12.5

 Integer Division : (6.25//0.5) = 12.0

 Exponent : (6.25^0.5) = 2.5

 Modulus : (6.25 % 0.5) = 0.25
>>>
```

Exercise03.py - H:/##MCA_Python/Python Assignments/Exercise03.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:3> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to concatenate the following string:
'''Hi Everyone!!!", "My name is __________", "I am a MCA I sem Student",
   My roll number is _________". (First method: use all these strings inside your program;
   Second Method: get the three strings as inputs from the user and then concatenate)'''

print("\n Output of Prog_No:3 in Ex_No:2 implemented by Purushottam Kumar :\n")
x=input(" Enter Your Name : ")
y=input(" Enter Your Roll Number : ")
print("\n Hi Everyone !!!, My name is : "+ x + ".\n I am a MCA I sem Student." + "\n My roll number is : "+ y)
```

OUTPUT

```
>>>
============== RESTART: H:\##MCA_Python\Python Assignments\Q_3.py ==

 Output of Prog_No:3 in Ex_No:2 implemented by Purushottam Kumar :

 Enter Your Name : Purushottam Kumar
 Enter Your Roll Number : 2041

 Hi Everyone !!!, My name is : Purushottam Kumar.
 I am a MCA I sem Student.
 My roll number is : 2041.
>>>
```

Exercise04.py - H:/##MCA_Python/Python Assignments/Exercise04.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:4> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to print the below strings using single quotes, double quotes and triple quotes.
'''Hi Everyone!!!", "My name is __________", "I am a MCA I sem Student",
   My roll number is _________". (First method: use all these strings inside your program;
   Second Method: get the three strings as inputs from the user and then concatenate)'''

print("\n Output of Prog_No:4 in Ex_No:2 implemented by Purushottam Kumar :\n")

x=input(" Enter Your Name : ")
y=input(" Enter Your Roll Number : ")
print('\n Hi Everyone !, My name is : '+ x + ".\n I am a MCA I-Sem Student."+ '''\n My roll number is : '''+ y)
```

OUTPUT

```
========== RESTART: H:/##MCA_Python/Python Assignments/Exercise04.py ====

 Output of Prog_No:4 in Ex_No:2 implemented by Purushottam Kumar :

 Enter Your Name : Purushottam Kumar
 Enter Your Roll Number : 2041

 Hi Everyone !, My name is : Purushottam Kumar.
 I am a MCA I-Sem Student.
 My roll number is : 2041
>>>
```

Exercise05.py - H:/##MCA_Python/Python Assignments/Exercise05.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No : 5> <Ex_No : 2> <Author: Purushottam Kumar>
# Write a program to swap two numbers using a temporary variable.

print("\n Output of Prog_No:5 in Ex_No:2 implemented by Purushottam Kumar :\n")

x=int(input(" Enter First Number (A) : "))
y=int(input(" Enter Second Number (B) : "))
print("\n Before swapping ")
print(" A = "+str(x) + " and B = "+ str(y))
temp = x;
x = y;
y=temp;
print("\n After swapping ")
print(" A = "+str(x) + " and B = "+ str(y))
```

OUTPUT

```
========== RESTART: H:/##MCA_Python/Python Assignments/Exercise05.py ==

 Output of Prog_No:5 in Ex_No:2 implemented by Purushottam Kumar :

 Enter First Number (A) : 15
 Enter Second Number (B) : 26

 Before swapping
 A = 15 and B = 26

 After swapping
 A = 26 and B = 15
>>>
```

Exercise06.py - H:/##MCA_Python/Python Assignments/Exercise06.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:6> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to convert farhenit to celcius.

print("\n Output of Prog_No:6 in Ex_No:2 implemented by Purushottam Kumar :\n")

F=float(input(" Enter Temperature in Fahrenheit ('F') : "))
C= (F-32)*5/9
print(" Fahrenheit : "+ str(F))
print(" Celsius : "+ str(C))
```

OUTPUT

```
========== RESTART: H:/##MCA_Python/Python Assignments/Exercise06.py ==========

 Output of Prog_No:6 in Ex_No:2 implemented by Purushottam Kumar :

 Enter Temperature in Fahrenheit ('F') : 98.6
 Fahrenheit : 98.6
 Celsius : 37.0
>>>
```

Exercise07.py - H:/##MCA_Python/Python Assignments/Exercise07.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:7> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to calculate SIMPLE  INTEREST & COMPOUND  INTEREST.

print("\n Output of Prog_No:7 in Ex_No:2 implemented by Purushottam Kumar :\n")

P=float(input(" Enter Principal (P) : "))
R=float(input(" Enter Rate% per annum (R) : "))
T=float(input(" Enter Time (in years) (T) : "))
Simple =(P*R*T)/100
Compound=P*(((1+R/100)**T)-1)
print("\n Principal : "+ str(P) + "\n Rate : "+str(R) + "\n Time : "+str(T))
print("\n Simple Interest : "+ str(Simple) + "\n Compound Interest : "+ str(Compound))
```

OUTPUT

```
=========== RESTART: H:/##MCA_Python/Python Assignments/Exercise07.py ==========

 Output of Prog_No:7 in Ex_No:2 implemented by Purushottam Kumar :

 Enter Principal (P) : 1200
 Enter Rate% per annum (R) : 10
 Enter Time (in years) (T) : 3

 Principal : 1200.0
 Rate : 10.0
 Time : 3.0

 Simple Interest : 360.0
 Compound Interest : 397.2000000000005
>>>
```

Exercise08.py - H:\##MCA_Python\Python Assignments\Exercise08.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:8> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to calculate area of circle and triangle.

print("\n Output of Prog_No:8 in Ex_No:2 implemented by Purushottam Kumar :\n")

radius=float(input(" Enter radius of circle ('r') : "))
area_circle = 22/7 * (radius**2);
print("\n Area of Circle (radius = "+ str(radius) + " ) is "+ str(area_circle)+" sq. unit")
s1=int(input("\n Enter 1st side of triangle ('a') : "))
s2=int(input("\n Enter 2nd side of triangle ('b') : "))
s3=int(input("\n Enter 3rd side of triangle ('c') : "))
s_peri = (s1+s2+s3)/2
area_triangle=(s_peri*(s_peri-s1)*(s_peri-s2)*(s_peri-s3))**0.5
print("\n Area of triangle is " + str(area_triangle)+" sq. unit")
```

OUTPUT

```
========== RESTART: H:\##MCA_Python\Python Assignments\Exercise08.py

 Output of Prog_No:8 in Ex_No:2 implemented by Purushottam Kumar :

 Enter radius of circle ('r') : 7

 Area of Circle (radius = 7.0 ) is 154.0 sq. unit

 Enter 1st side of triangle ('a') : 24

 Enter 2nd side of triangle ('b') : 10

 Enter 3rd side of triangle ('c') : 26

 Area of triangle is 120.0 sq. unit
>>>
```

Exercise09.py - H:\##MCA_Python\Python Assignments\Exercise09.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:9> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to calculate the distance between two points.

print("\n Output of Prog_No:9 in Ex_No:2 implemented by Purushottam Kumar :\n")

x1=int(input(" Enter x-cordinate of first point (A) : "))
y1=int(input(" Enter y-cordinate of first point (A) : "))
print("\n First Point is A("+ str(x1)+","+str(y1)+")\n")
x2=int(input(" Enter x-cordinate of second point (B) : "))
y2=int(input(" Enter y-cordinate of second point (B) : "))
print("\n Second Point is B("+ str(x2)+","+str(y2)+")")

distance=((x2-x1)**2 + (y2-y1)**2)**0.5
print("\n Distance between points A("+ str(x1) +","+str(y1)+") & B("+ str(x2) +","+str(y2)+") = "+ str(distance))
```

OUTPUT

```
=========== RESTART: H:\##MCA_Python\Python Assignments\Exercise09.py ==========

 Output of Prog_No:9 in Ex_No:2 implemented by Purushottam Kumar :

 Enter x-cordinate of first point (A) : 3
 Enter y-cordinate of first point (A) : 5

 First Point is A(3,5)

 Enter x-cordinate of second point (B) : 4
 Enter y-cordinate of second point (B) : 1

 Second Point is B(4,1)

 Distance between points A(3,5) & B(4,1) = 4.123105625617661
>>>
```

Exercise10.py - H:\##MCA_Python\Python Assignments\Exercise10.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:10> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to calculate the average of two floating point numbers.

print("\n Output of Prog_No:10 in Ex_No:2 implemented by Purushottam Kumar :\n")

A=float(input(" Enter first float number (A) : "))
B=float(input(" Enter second float number (B) : "))
avg = (A+B)/2
print("\n Average of "+ str(A) + " & "+str(B) + " = "+str(avg))
```

OUTPUT

```
========== RESTART: H:\##MCA_Python\Python Assignments\Exercise10.py

 Output of Prog_No:10 in Ex_No:2 implemented by Purushottam Kumar :

 Enter first float number (A) : 6.4
 Enter second float number (B) : 2.6

 Average of 6.4 & 2.6 = 4.5
>>>
```

Exercise11.py - H:\##MCA_Python\Python Assignments\Exercise11.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:11> <Ex_No:2> <Author: Purushottam Kumar>
#   Write a program to calculate the total amount of money given the denominations of
''' Rs. 1, Rs. 2, Rs. 5, Rs. 10, Rs. 20, Rs. 50, Rs. 100, Rs. 200, Rs. 500 & Rs. 2000.

( hint: Output must be

Enter the number of 1 rupees: 10
Enter the number of 2 rupees: 0
Enter the number of 5 rupees: 5
Enter the number of 10 rupees: 2
----------------------------------
Total amount is = Rs. 55 '''

print("\n Output of Prog_No:11 in Ex_No:2 implemented by Purushottam Kumar :\n")

R1=int(input(" Enter the number of 1 rupees : "))
R2=int(input(" Enter the number of 2 rupees : "))
R5=int(input(" Enter the number of 5 rupees : "))
R10=int(input(" Enter the number of 10 rupees : "))
R20=int(input(" Enter the number of 20 rupees : "))
R50=int(input(" Enter the number of 50 rupees : "))
R100=int(input(" Enter the number of 100 rupees : "))
R200=int(input(" Enter the number of 200 rupees : "))
R500=int(input(" Enter the number of 500 rupees : "))
R2000=int(input(" Enter the number of 2000 rupees : "))

Tot_amt =(R1)+(2*R2)+(5*R5)+(10*R10)+(20*R20)+(50*R50)+(100*R100)+(500*R500)+(2000*R2000)
print("\n Total amount is : "+ str(Tot_amt))
```

OUTPUT

```
=========== RESTART: H:\##MCA_Python\Python Assignments\Exercise11.py

 Output of Prog_No:11 in Ex_No:2 implemented by Purushottam Kumar :

 Enter the number of 1 rupees : 5
 Enter the number of 2 rupees : 2
 Enter the number of 5 rupees : 0
 Enter the number of 10 rupees : 9
 Enter the number of 20 rupees : 2
 Enter the number of 50 rupees : 0
 Enter the number of 100 rupees : 5
 Enter the number of 200 rupees : 0
 Enter the number of 500 rupees : 0
 Enter the number of 2000 rupees : 1

 Total amount is : 2639
```

Exercise12.py - H:\##MCA_Python\Python Assignments\Exercise12.py (3.8.2)

File Edit Format Run Options Window Help

```
# <Prog_No:12> <Ex_No:2> <Author: Purushottam Kumar>
# Write a program to convert a floating point to integer and vice-versa.

print("\n Output of Prog_No:12 in Ex_No:2 implemented by Purushottam Kumar :\n")

F=float(input(" Enter a float number : "))
print(" The Integer value of "+str(F) +" is : "+str(int(F)))

M=int(input("\n Enter an integer value : "))
print(" The Float value of "+str(M) +" is : "+str(float(M)))
```

OUTPUT

```
========== RESTART: H:\##MCA_Python\Python Assignments\Exercise12.py

 Output of Prog_No:12 in Ex_No:2 implemented by Purushottam Kumar :

 Enter a float number : 2.41
 The Integer value of 2.41 is : 2

 Enter an integer value : 25
 The Float value of 25 is : 25.0
>>>
```