Assignment - I

Q 1/6 Evaluate the expression (x<y) or (not (z==y)) and (z<=x) if

(a) x = 0, y = 6, z = 10

Ans/6 (0<6) or (not (10==6)) and (10<=0)

= (0<6) or (True) and (False)

= (True) or False

= True

(b) x = 1, y = 1, z = 1

Ans/6 (1<1) or (not (10==1)) and (1<=1)

False or False and True

False or False

= False

Q2/6 Evaluate the following expressions involving arithmetic operators

(a) -7*20 + 8/16 * 2 + 54

Ans/6 Priority of arithmetic operators

/, *, >, +, -

-140 + 0.5 * 2 + 54

-140 + 1.0 + 54

-85.0

(b) 7**2 // 9%3

Ans/6 ** Assoc, → R to L

//, % Assoc, → L to R

= 49 // 9%3

= 5%3
= 2

(c) (7-4*2) * 10 - 25 * 8//15

Ans) (7) > * > //

= (7-4*2) * 10 - 25 * 8//15

= (7-8) * 10 - 200 * //15

= (-1) * 10 - 200//15

= -10 - 40 = -50

(d) 'hello' + 2.5

Ans) TypeError: unsupported operand type(s)

Q.36 Evaluate the following expressions involving arithmetic, relational and logical operators.

(a) 5%10 + 10<50 and 29>=29

Ans) logical > Relational > Arithmetic

5%10 + 10<50 and 29>=29
5%10 + 10<50 and (True)
5%10 + (True) and True
6 and (True) ⇒ True

(b) 7/4<6 and 'I am fine' > 'I am not fine'

Ans) 1.75<6 and 'I am fine' > 'I am not fine'
True and False [ASCII value of 'f' < 'n']
⇒ False

(c) ~~7**2<0~~ 7**2<=5//9%3 or 'bye' < 'Bye'

Ans6 $9 <= 5 \,||\, 9\%3$ or False
False $||\, 9\%3$ or False
0 or False
⇒ False

(d) $10 + 6 * 2 ** 2 \,!= 9 \,||\, 4 - 3$ and $29 >= 29/9$

Ans6 $10 + 6 * 4 \,!= 9 \,||\, 4 - 3$ and True
$10 + 24 \,!= 9 \,||\, 4 - 3$ and True
$34 \,!= 2 - 3$ and True
$34 \,!= -1$ and True
True and True ⇒ True

Q4 How does the effect of following two statements differ.

(a) $X+ = X+10$

→ Here, we add $(X+10)$ in (X) and assign value to X. If $X = 1$

$X = X + (X+10)$
$X = 2X + 10$
$X = 12$

(b) $X+ = 10$

→ Here, we add 10 in X and assign value to X

let $X = 1$
$X = X + 10$
$X = 11$

Q5 Differentiate between following operators with help of examples.

Roll No. ..... Scholar No. .....

(a) = and ==

Ans = is assignment operator

eg. x = 10

it assign value of 10 to X.

== is relational operator and compare two values to return True/False

eg 6 == 6

This returns True

(b) / and %

Ans / is float division operator

If 3/2 it returns 1.5

% is modulo operator it returns remainder

eg:- 3%2

return remainder 1

(c) / and //

Ans / is float division

Eg:- 3/2 returns 1.5

// is integral division

Eg:- 3//2 return 1

(d) * and **

Ans * is multiplication operator

Eg:- 5*2 return 10

** is exponential operator

Eg:- 2**2 return 4.

SESSIONAL PAPERS

Vishal PRODUCTS BHOPAL

Question:5 #__Read four digit number and print all digits sum__#

```
num=int(input("Enter a four digit number: "))
digit1=num%10
digit2=(num//10)%10
digit3=(num//100)%10
digit4=num//1000
sum=(digit1+digit2+digit3+digit4)
print("Sum of four digit number is: ",sum)
```

```
========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/sum of four digit no.py ==========
enter a no: 1254
sum of four digit no is:  12
```

Question:6 #__print three digit integer in sorted order__#

```
num1=int(input("Enter first number: "))
num2=int(input("Enter second number: "))
num3=int(input("Enter third number: "))

if num1<num2 and num1<num3 :
   smallest=num1
   if num2<num3 :
      middle=num2
      largest=num3
   else:
```

```
    middle=num3
    largest=num2

elif num2<num1 and num2<num3 :
  smallest=num2
  if num1<num3 :
    middle=num1
    largest=num3
  else:
    middle=num3
    largest=num1

elif num3<num1 and num3<num2 :
  smallest=num3
  if num1<num2 :
    middle=num1
    largest=num2
  else:
    middle=num2
    largest=num1
print("Smallest number =", smallest)
print("second higher number =", middle)
print("Highest number =", largest)

========== RESTART: C:/Users/YASH
MENARIA/OneDrive/Documents/sum of four digit no.py
==========
Enter first number: 9
Enter second number: 5
```

```
Enter third number: 7
Smallest number = 5
second higher number = 7
Highest number = 9
```

Question:7

```
length=int(input("Enter length of room: "))
width=int(input("Enter Width of room: "))

area=length*width
print("Area of room is: ",area)
```

```
========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/sum of four digit no.py ==========
Enter length of room: 50
Enter Width of room: 30
Area of room is:  1500
```

```
#__Question9.a__#

import math
a=int(input("Enter value of a: "))
b=int(input("Enter value of b: "))
c=int(input("Enter value of c: "))
```

```
root1=((-b)+math.pow(math.pow(b,2)-(4*a*c),0.5))/(2*a)
root2=((-b)-math.pow(math.pow(b,2)-(4*a*c),0.5))/(2*a)

print("root 1 of equation is: ",root1)
print("root 2 of equation is: ",root2)
```

```
========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/sum of four digit no.py ==========
Enter value of a: 1
Enter value of b: -4
Enter value of c: 4
root 1 of equation is:  2.0
root 2 of equation is:  2.0
```

```
#__Question9.b__#

import math

x=int(input("Enter value of x: "))
y=int(input("Enter value of y: "))

f=2*math.cos((x+y)/2)*math.cos((x-y)/2)
print(f)
```

```
========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/sum of four digit no.py ==========
Enter value of x: 0
```

```
Enter value of y: 0
2.0

Question:10 #__Compute Total Time__#

days=int(input("Enter no of days: "))
hours=int(input("Enter no of hours: "))
minutes=int(input("Enter no of minutes: "))
seconds=int(input("Enter no of seconds: "))

totalTime=(days*24*3600)+(hours*3600)+(minutes*60)+seconds
print("Total timein Seconds is: ",totalTime)

========== RESTART: C:/Users/YASH
MENARIA/OneDrive/Documents/sum of four digit no.py
==========
Enter no of days: 1
Enter no of hours: 4
Enter no of minutes: 45
Enter no of seconds: 30
Total timein Seconds is:  103530
```

Name: Yash Raj Menaria

Python Lab Assignment 3

#_Lab-03 Q.1#

```
N=int(input("Enter number of rows: "))
space=N-1
for i in range(0,N):
    print("")
    for k in range(0,space):
        print(" ",end="")
    for j in range(0,i+1):
        print("*",end=" ")
  space=space-1
```

```
========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/Pattern print.py ==========
Enter number of rows: 4

   *
  * *
 * * *
* * * *
```

#_Lab-03 Q.2#

```
rows=int(input("Enter Number of Rows: "))


def numPrint(n):
```

```
    if(n==1):
        print("1",end="")
        return

    numPrint(n-1)
    print(n,end="")
    numPrint(n-1)

#Main Code#

for i in range(1,rows+1,1):
    numPrint(i)
    print("\n")
```

========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/Pattern print 2.py ==========

Enter Number of Rows: 4

1

121

1213121

121312141213121

```
#_Lab-03 Q.3#

width=int(input("Enter width of Rectangle: "))
height=int(input("Enter heigth of Rectangle: "))
```

```
def RectanglePrint(width,height):
    for i in range(0,width):
        print("")
        for j in range(0,height):
            if(i==0 or j==0 or i==width-1 or j==height-1):
                print("*",end="")

            else:
                print(" ",end="")

#---main code---#

RectanglePrint(height,width)
```

```
===== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/Pattern print 3.py =====
Enter width of Rectangle: 5
Enter heigth of Rectangle: 3

*****
*   *
*****
```

```
#Lab-03 Q.4_#

rows=int(input("Enter No. of Rows: "))

for i in range(1, rows + 1):
    for j in range(rows - i ,0,-1):
        print(" ", end="")
```

```
    for k in range(1, 2 * i):
        if k == 1 or k == 2 * i - 1:
            print("*", end="")
        else:
            print(" ", end="")
    print()

for i in range(rows - 1, 0, -1):
    for j in range(1, rows - i + 1):
        print(" ", end="")
    for k in range(1, 2 * i):
        if k == 1 or k == 2 * i - 1:
            print("*", end="")
        else:
            print(" ", end="")
    print()

===== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/Pattern Print 4.py =====
Enter No. of Rows: 6
     *
    * *
   *   *
  *     *
 *       *
*         *
 *       *
  *     *
   *   *
    * *
     *
```

```
#_Lab-03 Q.5#


rows=int(input("Enter No. of Rows: "))


for i in range(1, rows+ 1):
        for j in range(1, i):
                print(" ", end="")
        for j in range(1, 2 * (rows - i) + 2):
                print("*", end="")
        print()


========== RESTART: C:/Users/YASH MENARIA/OneDrive/Documents/Pattern Print 5.py ==========
Enter No. of Rows: 4
*******
 *****
  ***
   *
```