

Practical Work – Python Programming Language

Q No.	Python Codes	Output
Q1	#Basic Operators in Python print(3-10**2+99/11) print(3-100+99//11) print(3-100+9.0) print(-97+9.0)	-88.0 -88 -88.0 -88.0
Q2	# Conversion of Integer to Float print(3.25+2)	5.25
Q3	# Use of int() function print("Fractional String to Integer",int("3.4")) print("Integer String to Integer",int("3"))	Fractional String to Integer 3.4 Integer String to Integer 3
Q4 (a)	# Use of max(),len() function T=(10,12,43,29) print(T[1]) print(len(T)) print(max(T)) T[1]=29 # Error because tuple is Immutable	12 4 43 Error
Q4(b)	# Tuple example T=(1)# This will creates a Variable T with value 1 T=T+2 print(T) "" if you want to creates a tuple with single value then you need to insert a comma after that value "" T=(1,)#This will creates a Tuple T with value 1 T = T + 2 # Error because T is now a Tuple	3

		T= (1) Error
Q5(a)	<pre># Find the Data Type of Variable # type() method is used for finding the datatype x=10 print(type(x)) x=10.5 print(type(x)) x="Palampur" print(type(x))</pre>	<pre><class 'int'> <class 'float'> <class 'str'></pre>
Q5(b)	<pre># Mathematical Operations on String First_Name = "Karan" Last_Name = "Kumar" print(First_Name + Last_Name) # Addition of Two Strings # Addign a Blank Space between two Strings print(First_Name + " "+Last_Name) # Addition of Three Strings # We can Multiply a String with an Integer print(First_Name * 5)# This will repeat this string for Five times print(First_Name - Last_Name)# Error Substraction is not allowed print(First_Name *Last_Name)# Error Multiplication of two strings is not allowed print(First_Name /Last_Name)# Error Division of two strings is not allowed</pre>	<pre>KaranKumar Karan Kumar KaranKaranKaranKaranKaran</pre>
Q5(c)	# Variables Declaration and Initialization	

	<pre># Method One x =10 y =20 print("X = :",x , "Y = ",y) # Method Two x , y = 30 ,40 print("X = :",x , "Y = ",y) # Interchanging the Values of variable x , y = y ,x print("X = :",x , "Y = ",y)</pre>	<pre>X = : 10 Y = 20 X = : 30 Y = 40 X = : 40 Y = 30</pre>
Q5(d)	<pre># Types of Strings in Python x = "Single Line String with double quotes" x1 = 'Single Line String with single quote' y = """Multiline String In Python with triple double quotes""" y1 = """Multiline String In Python with triple single quotes""" z = "Printing Quotes inside a 'String' " z1 = """Printing Quotes inside a "String" """ print(x) print(x1) print(y) print(y1)</pre>	<pre>Single Line String with double quotes Single Line String with single quote Multiline String In Python with triple double quotes Multiline String In Python with triple single quotes Printing Single Quotes inside a 'String' Printing Double Quotes inside a "String"</pre>

	<pre>print(z) print(z1)</pre>	
Q6(a)	<pre># range() method """ The range function in Python generates a random list of numbers which is generally used to iterate over items using for loops. range(Start [Optional], End ,Step[Optional]) Default Start =0 Default Step=1 It will generate a sequence of numbers from Start to End-1 """ # Use of range() function for n in range(1,5,1): # With all arguments print("N =:",n) for p in range(5,1): # Without Start argument print("P =:",p) for q in range(5): # Without Start and End arguments print("Q =:",q) for r in range(1,10,2): # With Step value 2 print("R =:",r) for s in range(5,1,-1): # With Step value -1 print("S =:",s)</pre>	<pre>N =: 1 N =: 2 N =: 3 N =: 4 P =: 1 P =: 2 P =: 3 P =: 4 Q =: 0 Q =: 1 Q =: 2 Q =: 3 Q =: 4 R =: 1 R =: 3 R =: 5 R =: 7 R =: 9 S =: 5 S =: 4 S =: 3 S =: 2</pre>
Q6(b)	<pre># if condition in Python """</pre>	<pre>Please enter today day number [1-7]: 1 Today is Monday</pre>

Perhaps the most well-known statement type is the if statement.

#Syntax of if condition

The general Python syntax for a simple if condition is:

```
if condition :  
    indented Statement Block For True Condition
```

If the condition is true, then do the indented statements. If the condition is not true, then skip the indented statements.

```
"""
```

```
# Simple if condition
```

```
x = int(input("Please enter today day number [1-7]: "))
```

```
if x == 1:
```

```
    print("Today is Monday")
```

```
# if condition with else
```

```
#Syntax of if -else condition
```

```
"""
```

The general Python syntax for a if-else condition is:

```
if condition :  
    indented Statement Block For True Condition
```

```
else:
```

```
    indented Statement Block For False Condition
```

```
"""
```

Please enter today day number [1-7]: 2
Else Statement Output - Wrong Input

Please enter today day number [1-7]: 5
Friday
End of the program

```
x = int(input("Please enter today day number [1-7]: "))
if x == 1:
    print("Today is Monday")
else:
    print("Wrong Input")
```

if condition with elif
#Syntax of if - elif condition

"""

The general Python syntax for a if-elif condition
is:

```
if condition :
    indented Statement Block For True Condition
```

```
elif:
    indented Statement Block For True Condition
```

```
elif:
    indented Statement Block For True Condition
```

```
elif:
    indented Statement Block For True Condition
```

.....

.....

```
else: [Optional]
    indented Statement Block
```

There can be zero or more elif parts, and the
else part is optional. The keyword 'elif' is

	<p>short for 'else if', and is useful to avoid excessive indentation.</p> <pre> """ x = int(input("Please enter today day number [1-7]: ")) if x == 1: print("Monday") elif x==2: print("Tuesday") elif x==3: print("Wednesday") elif x==4: print("Thursday") elif x==5: print("Friday") elif x==6: print("Saturday") elif x==7: print("Sunday") else: print("Wrong Input") print("End of the program") </pre>	
Q6(c)	<p># Looping Construct in Python - for loop</p> <pre> """ In Python, the iterative statements are also known as looping statements or repetitive statements. The iterative statements are used to execute a part of the program repeatedly as long as a given condition is True. """ print("Without using any Loop construct") print("Hello World") print("Hello World") </pre>	<p>Without using any Loop construct</p> <pre> Hello World Hello World Hello World Hello World Hello World Same output using for Loop construct Hello World Hello World Hello World </pre>

```

print("Hello World")
print("Hello World")
print("Hello World")

print("Same output using for Loop construct")
for n in range(1,6):
    print("Hello World")

# Syntax of for loop
"""
for <Control_Variable> in <sequence/items in range>:
    indented Statement Block For True Condition
"""

print("For loop using range() method")
for n in range(1,6):
    print("N =:",n)

print("For loop Using tuple sequence")
for n in (1,2,3,4,5):
    print("N = :",n)

print("For loop Using list sequence")
for n in [1,2,3,4,5]:
    print("N = :",n)

print("For loop using string sequence")
for n in "kendriya":
    print("N = :",n)
print("For loop using Dictionary sequence")
# The Key of dictionary becomes the values of control variables

```

```

Hello World
Hello World
For loop using range() method
N =: 1
N =: 2
N =: 3
N =: 4
N =: 5
For loop Using tuple sequence
N = : 1
N = : 2
N = : 3
N = : 4
N = : 5
For loop Using list sequence
N = : 1
N = : 2
N = : 3
N = : 4
N = : 5
For loop using string sequence
N = : k
N = : e
N = : n
N = : d
N = : r
N = : i
N = : y
N = : a
For loop using Dictionary sequence
N = : Item1
N = : Item2

```


	<pre>for n in {'Item1':1,'Item2':2,'Item3':3,'Item4':4,'Item5':5}: print("N = :",n) print("End of the Program")</pre>	<pre>N = : Item3 N = : Item4 N = : Item5 End of the Program</pre>
Q6(e)	<pre># While loop in Python """ The Python while loop allows a part of the code to be executed until the given condition returns false. It is also known as a pre-tested loop. It can be viewed as a repeating if statement. When we don't know the number of iterations then the while loop is most effective to use. """ #Syntax of while loop """ while <Test Expression> : indented Statement Block For True Condition <Increment Counter variable> [else :] # Optional Indented Statement Block """ a=1 while a <= 5 : print("Hello World") a = a+1 a=1 print("Use of else with While loop") while a <= 5 :</pre>	<pre>Hello World Hello World Hello World Hello World Hello World Use of else with While loop While loop with else While loop with else While loop with else While loop with else While loop ends End of the program</pre>

	<pre> print("While loop with else") a = a+1 else: print("While loop ends") print("End of the program") </pre>	
Q7	<pre> # Output based question on for loop in Python # Question No 1 #Predict the output of the following for n in range(1,10,1): print("N = :",n) # Question No 2 #Predict the output of the following for n in range(1,10,2): print("N = :",n) # Question No 3 #Predict the output of the following for n in range(1,10,-1): print("N = :",n) # Question No 4 #Predict the output of the following for n in range(10,1,-1): print("N = :",n) # Question No 5 #Predict the output of the following for n in range(10,-1,-1): print("N = :",n) </pre>	<pre> N = : 1 N = : 2 N = : 3 N = : 4 N = : 5 N = : 6 N = : 7 N = : 8 N = : 9 N = : 1 N = : 3 N = : 5 N = : 7 N = : 9 N = : 10 N = : 9 N = : 8 N = : 7 N = : 6 N = : 5 N = : 4 N = : 3 N = : 2 </pre>

```
# Question No 6
#Predict the output of the following
for ch in "India":
    print("N = :",ch)
```

```
# Question No 7
#Predict the output of the following
for ch in "India":
    print("N = :","#",ch)
```

```
# Question No 8
#Predict the output of the following
for ch in "India":
    print("N = :",ch,"#")
```

```
# Question No 9
#Predict the output of the following
for n in range(10,-1,-1):
    if n% 2 ==0:
        print("N = :",n)
```

```
# Question No 10
#Predict the output of the following
for n in range(10,-1,-1):
    if n % 2 != 0:
        print("N = :",n)
```

```
# Question No 11
#Predict the output of the following
x=5;
for y in range(6,1,-1):
    x=1;
```

```
N = : 10
N = : 9
N = : 8
N = : 7
N = : 6
N = : 5
N = : 4
N = : 3
N = : 2
N = : 1
N = : 0
```

```
N = : l
N = : n
N = : d
N = : i
N = : a
```

```
N = : # l
N = : # n
N = : # d
N = : # i
N = : # a
```

```
N = : l #
N = : n #
N = : d #
N = : i #
N = : a #
```

```
N = : 10
N = : 8
```

```
print("X =",x)
x=x+1
```

Question No 12

#Predict the output of the following

```
x=5;
for y in range(6,1,-1):
    print("X =",x)
    x=x+1
x=1
```

Question No 13

#Predict the output of the following

```
x=5
y=5
for y in range(6,1,-1):
    print("X =",x,"Y =",y)
    x=x+1
    y=y+1
```

Question No 14

#Predict the output of the following

```
x=10
y=5
for y in range(x-y,x+y,y-4):
    print("X =",x,"Y =",y)
```

Question No 14

#Predict the output of the following

```
n=int(input("Please input 10  =:"))
for n in range(n,-2,-1):
```

```
N = : 6
N = : 4
N = : 2
N = : 0
```

```
N = : 9
N = : 7
N = : 5
N = : 3
N = : 1
```

```
X =: 1
X =: 1
X =: 1
X =: 1
X =: 1
```

```
X =: 5
X =: 1
X =: 1
X =: 1
X =: 1
```

```
X =: 5 Y =: 6
X =: 6 Y =: 5
X =: 7 Y =: 4
X =: 8 Y =: 3
X =: 9 Y =: 2
```

```
X =: 10 Y =: 5
X =: 10 Y =: 6
X =: 10 Y =: 7
```

<pre> print("N =",n) # Question No 15 #Predict the output of the following numbers = [2, 4, 6, 8] product = 1 for number in numbers: product = product * number print('The product is:', product) # Question No 16 #Predict the output of the following Allplanets = ["Mercury", "Venus", "Earth", "Mars", "Jupiter", "Saturn", "Uranus", "Neptune"] index = 0 for index in range(0,len(Allplanets)): Singleplanet = Allplanets[index] print(Singleplanet) index = index + 1 # Question No 17 #Predict the output of the following RATE = 1.05 YEAR = 2021 balance = 1.0 for year in range(2015, YEAR): balance = balance * RATE print("Balance in the year ",year,"= :",balance) </pre>	<pre> X =: 10 Y =: 8 X =: 10 Y =: 9 X =: 10 Y =: 10 X =: 10 Y =: 11 X =: 10 Y =: 12 X =: 10 Y =: 13 X =: 10 Y =: 14 Please input 10 =:10 N =: 10 N =: 9 N =: 8 N =: 7 N =: 6 N =: 5 N =: 4 N =: 3 N =: 2 N =: 1 N =: 0 N =: -1 The product is: 2 The product is: 8 The product is: 48 The product is: 384 Mercury Venus Earth Mars Jupiter </pre>
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```

# Question No 18
#Predict the output of the following
myList = [3, 4, 5, 6, 7, 8, 9]
for i in range(len(myList)):
    myList[i] = 2 * myList[i]
print( myList )

# Question No 19
#Predict the output of the following
cuteWords =
['adorable','beautiful','charming','delightful','pleasant','pretty','dainty']
for w in cuteWords:
    print(w, len(w))

# Question No 20
#Predict the output of the following
totalSum=0
for num in range(1,10,2):
    totalSum=totalSum +num
print("Total Sum is :=",totalSum)

# Question No 21
#Predict the output of the following
for n in range(-5,5,1):
    print("N = :",n)

# Question No 22
#Predict the output of the following
for n in range(1,6):
    print("N = :",n/10)

# Question No 23

```

```

Saturn
Uranus
Neptune

Balance in the year 2015 = : 1.05
Balance in the year 2016 = : 1.1025
Balance in the year 2017 = : 1.1576250000000001
Balance in the year 2018 = : 1.2155062500000002
Balance in the year 2019 = : 1.2762815625000004
Balance in the year 2020 = : 1.3400956406250004

[6, 8, 10, 12, 14, 16, 18]

adorable 8
beautiful 9
charming 8
delightful 10
pleasant 8
pretty 6
dainty 6

Total Sum is := 25

N = : -5
N = : -4
N = : -3
N = : -2
N = : -1
N = : 0
N = : 1
N = : 2
N = : 3

```

```
#Predict the output of the following
for num in range(10,20,2):
    print("N = :",num//10)
```

```
# Question No 24
```

```
#Predict the output of the following
x = 1
for x in range(1,6):
    x = x + 1
    print(x)
print("Done.")
```

```
# Question No 25
```

```
#Predict the output of the following
```

```
for x in range(1,6):
    pass
print("Done.")
```

```
for x in range(1,6):
    pass
    print( "X =:",x)
print("Done.")
```

```
for x in range(1,6):
    print( "X =:",x)
    pass
print("Done.")
```

```
# Question No 26
```

```
N = : 4
```

```
N = : 0.1
N = : 0.2
N = : 0.3
N = : 0.4
N = : 0.5
```

```
N = : 1
N = : 1
N = : 1
N = : 1
N = : 1
```

```
2
3
4
5
6
```

```
Done.
X =: 1
X =: 2
X =: 3
X =: 4
X =: 5
Done.
X =: 1
X =: 2
X =: 3
X =: 4
X =: 5
```

<pre> #Predict the output of the following month = {'01':'January', '02':'February', '03':'March', '04':'April', '05':'May', '06':'June', '07':'July', '08':'August', '09':'September', '10':'October', '11':'November', '12':'December' } for monthNumber in month.keys(): print(monthNumber) for monthName in month.values(): print(monthName) for monthNumber,monthName in month.items(): print(monthNumber,monthName) for output in month: print(output) # Question No 27 #Predict the output of the following oldPrice = {'Apple': 80, 'Orange': 60, 'Banana': 45} for item,price in oldPrice.items(): oldPrice[item] = price + price*10/100 print("Output is :",oldPrice) </pre>	<pre> Done. 01 02 03 04 05 06 07 08 09 10 11 12 January February March April May June July August September October November December 01 January 02 February 03 March 04 April </pre>
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<pre># Question No 28 #Predict the output of the following listElements = [10,-10,20,-20,30,-30] for num in listElements: total = num + 10 num=20 print("Output is :",total) # Question No 29 #Predict the output of the following listElements = [10,-10,20,-20,30,-30] temp=listElements[0] for num in listElements: total = temp + num//5 temp=num print("Output is :",total) # Question No 30 #Predict the output of the following total=0 listElements = [1000,2000,3000,4000,-10000] for num in listElements: total = total+num print("Output is :",total) # Question No 21 #Predict the output of the following</pre>	<pre>05 May 06 June 07 July 08 August 09 September 10 October 11 November 12 December 01 02 03 04 05 06 07 08 09 10 11 12 Output is : {'Apple': 88.0, 'Orange': 66.0, 'Banana': 49.5} Output is : -20 Output is : 24 Output is : 0</pre>
--	---

```
total=0
index=0
listElements = [1000,2000,3000,4000,-10000]
for num in listElements:
    total = total+num
    listElements[index]=total
    index=index+1
print("Output is :",listElements)
```

Question No 32
#Predict the output of the following

```
myName ="Chanakya"
myString ="
for ch in myName:
    myString =myString + '@' + ch
    myString = myString*1
print("Now String is :",myString)
```

Question No 33
#Predict the output of the following

```
myName ="Chanakya"
myString ="
for ch in myName:
    myString =myString + '@' + "ch"
    myString = myString*1
print("Now String is :",myString)
```

Question No 34
#Predict the output of the following

Output is : [1000, 3000, 6000, 10000, 0]

Now String is : @C@h@a@n@a@k@y@a

Now String is : @ch@ch@ch@ch@ch@ch@ch@ch

Now String is : myString@ch

```
myName ="Chanakya"  
myString ="  
for ch in myName:  
    myString ="myString" + '@' + "ch"  
    myString = myString*1  
print("Now String is :",myString)
```

Question No 35
#Predict the output of the following

```
myTuple =(10,20,300)  
finalValue=0  
x,y,z=myTuple  
for z in myTuple:  
    finalValue=x+y+z  
print("Final Value is :",finalValue)
```

Question No 36
#Predict the output of the following

```
myTuple =(10,20,300)  
finalValue=0  
x,y,z=myTuple  
for z in myTuple:  
    finalValue=finalValue+x+y+z  
print("Final Value is :",finalValue)
```

Question No 37
#Predict the output of the following

Final Value is : 330

Final Value is : 420

```
myTuple =(10,20,30)
myList =[100,200,300]
finalValue=0
x,y,z=myTuple
m,n,p=myList
for counter in range(len(myTuple)+len(myList)):
    x,y,z=m,n,p
    m,n,p=x,y,z
print("X =:",x,"Y = :",y,"Z =:",z)
```

Question No 38

#Predict the output of the following

```
myTuple =(10,20,30)
myList =[100,200,300]
finalValue=0
x,y,z=myTuple
m,n,p=myList
for counter in range(len(myTuple)+len(myList)):
    x,y,z=m,n,p
    m,n,p=x,y,z
print("M =:",m,"N = :",n,"P =:",p)
```

Question No 39

#Predict the output of the following

```
for num in range(1,20,5):
    value = num%10 + num/10 +num//10
print("Final Value is :",value)
```

Question No 40

X =: 100 Y = : 200 Z =: 300

M =: 100 N = : 200 P =: 300

Final Value is : 8.6

	<p>#Predict the output of the following</p> <pre>for num in (1,20,5): value = num%10 + num/10 +num//10 print("Final Value is :",value)</pre>	Final Value is : 5.5
	to be continue	