Section 1 :- Theory

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Q1. What is the difference between list and tuples?

1. List is mutable and tuple are immutable
2. List are declared as: list\_name=[item1 ,item2]
3. Tuples are declared as: tuple\_name=(item1 ,item2)

Q2. What are the key features of Python?

1. It is an interpreted language
2. It has predefined functions
3. It is an object-oriented language

Q3. What is the difference between deep and shallow copy?

Q4. How can the ternary operators be used in python?

Q5. How is memory managed in Python?

Q6. What is the usage of help() and dir() function in Python?

* Help() is used to when we want to generate help for a object
* Dir() is used to display all the functions of the object

Q7. Whenever Python exits, why isn’t all the memory de-allocated?

Q8. What are negative indexes and why are they used?

* Accessing the elements of the list or tuples we use negative indexing
* For accessing the elements from behind we pass negative values to index
* For example: a[10,20,30,40]

A[-1]=40

A[-2]=30

A[-3]=20

Q9. What is the difference between range & xrange?

Q10. Which one of these is floor division?

Section 2 :- Programming Analyzation

1) Find the output of the following code:

sum = 0

for i in range(12,2,-2):

sum+=i

print sum

Output: -

12

22

30

36

40

2) Find the output of the following code:

n=50

i=5

s=0

while i<n:

s+=i

i+=10

print "i=",i

print "sum=",s

Output: -

I=55

Sum= 125

3) Find the output of the following code:

List=[1,6,8,4,5]

print List[-4:]

Output: -

[6,8,4,5]

4) How many times are the following loops executed?

i=100

while(i<=200):

print i

i+=20

Output: -

100

120

140

160

180

200

5) Find the output of the following code:

L=[100,200,300,400,500]

L1=L[2:4]

print L1

L2=L[1:5]

print L2

L2.extend(L1)

print L2

Output: -

[300,400]

[200,300,400,500]

[200,300,400,500,300,400]

6) Predict the behavior of the code:

List=list("String")

print List

Output: -

[‘s’,’t’,’r’,’i’,’n’,’g’]

Section 3 :- Problem solving

1. Python Program to Convert Kilometers to Miles

Program: -

#program for converting kilometers into miles

def main():

num=input("enter the number of kilometers")

miles=num\*0.6

print "no of miles is ",miles

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Convert Celsius To Fahrenheit

Program: -

#program for converting celcius into fahrenheit

def main():

num=input("enter the temperature in celcius")

far=num\*9/5+32

print "temperature in farenheit is ",far

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Check Prime Number

Program: -

#wap to find given number is prime or not

def prime():

num= input("enter a number to be checked")

count\_fact =0

for i in range(1,num+1):

if(num%i==0):

count\_fact+=1

if(count\_fact == 2):

return True

else:

return False

def main():

print prime()

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Print all Prime Numbers in an Interval

Program: -

#wap to find numbers in a range

r=int(input("Enter upper limit: "))

for a in range(2,r+1):

k=0

for i in range(2,a//2):

if(a%i==0):

k=k+1

if(k<=0):

print(a)

1. Python Program to Find the Factorial of a Number

Program: -

#wap to find factorial of a number

def fact():

fact=1

num=input("enter the number")

for i in range(1,num+1):

fact=fact\*i

print fact

def main():

fact()

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Display the multiplication Table

Program: -

#wap to print multiplicatiom table

def main():

num=input("enter the number to find multiplication ")

for i in range(1,11):

print num,"\*",i,"=",(num\*i)

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Print the Fibonacci sequence

Program: -

#wap for constructing fibonacci series

def main():

num=input("enter the number")

prev\_number=0

next\_number=1

print prev\_number

print next\_number

for k in range(3,num+1):

sum=prev\_number+next\_number

print sum

prev\_number=next\_number

next\_number=sum

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Check Armstrong Number

Program: -

#wap to check given number is amstrong or not

def main():

num=input("enter the number")

sum = 0

temp = num

while temp > 0:

digit = temp % 10

sum += digit \*\* 3

temp //= 10

if num == sum:

print(num,"is an Armstrong number")

else:

print(num,"is not an Armstrong number")

if(\_\_name\_\_=="\_\_main\_\_"):

main()

1. Python Program to Find HCF or GCD

Program: -

#wap to find hcf

x = int(input("Enter first number: "))

y = int(input("Enter second number: "))

if x > y:

smaller = y

else:

smaller = x

for i in range(1,smaller + 1):

if((x % i == 0) and (y % i == 0)):

hcf = i

print("The H.C.F. of", x,"and", y,"is", hcf)

1. Python Program to Find LCM

Program: -

def lcm(x, y):

if x > y:

greater = x

else:

greater = y

while(True):

if((greater % x == 0) and (greater % y == 0)):

lcm = greater

break

greater += 1

return lcm

num1 = input("enter the number")

num2 = input("enter the second number")

print("The L.C.M. of", num1,"and", num2,"is", lcm(num1, num2))

1. Python Program to Find Factors of Number

Program: -

def print\_factors(x):

print("The factors of",x,"are:")

for i in range(1, x + 1):

if x % i == 0:

print(i)

num = int(input("Enter a number: "))

print factors(num)