PYTHON PROGRAMMING LAB /EC 162 R22

I/IV B.TECH – I SEM-R22

LABORATORY MANUAL

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Bapatla-522101

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BAPATLA WOMEN'S ENGINEERING COLLEGE::BAPATLA

AN ISO 9001-2015 CERTIFIED INSTITUTION

COLLEGE VISION & MISSION

COLLEGE VISION:

BWEC has been established with forethought to organize the growing needs of higher technical education for WOMEN, to provide them a competitive edge and a unique niche in the society. We at BWEC are determined to create a conducive environment with updated technological inputs and latest information to facilitate the students with a pleasant feel in acquiring knowledge and skills required to make them globally competitive technocrats.

COLLEGE MISSION:

Our mission is to impart the quality education on par with global standards to the students from all over India, and particularly those from local and rural areas. We continuously try to maintain high standards to make them technologically competent and ethically strong individuals who shall be able to improve the quality of life and economy of our country.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VISION

To produce highly professional and socially responsible women engineers through world class quality technical education and research to meet industry and Society needs in the field of Electronics and Communication Engineering.

MISSION

M1- To inculcate quality education for women through innovative learning practices with the use of modern tools.

M2- To impart professional ethics and moral values through co-curricular and Extra-curricular activities as individual and team member.

M3- Empowering graduates through industrial trainings/on-job training in collaboration with industries with-a-view to life-long learning.

Department Programme Educational Objectives (PEOs)

PEO1: To develop and implementation of Electronics and Communication systems by imparting technical knowledge, professional leadership and communication skills as an individual and team in a multi-disciplinary stream.

PEO2: To train Graduates in solving complex problems, analyzing, designing and imparting research-based knowledge by using modern scientific tools to develop least cost-effective and innovative products.

PEO3: To produce women graduates through life-long learning, who ensure ethical and moral behavior.

The Programme Specific Objectives (PSO'S)

PSO1: To understand and analyze basic concepts of electronics and communication in various areas like signal processing, VLSI, embedded systems, communications, digital and analog devices.

PSO2: Ability to design and develop computing systems using concepts of mathematics, electronics engineering and other related inter disciplines to asses and resolve societal, environmental, health safety and cultural issues with professional ethics.

Programme Outcomes (POs)

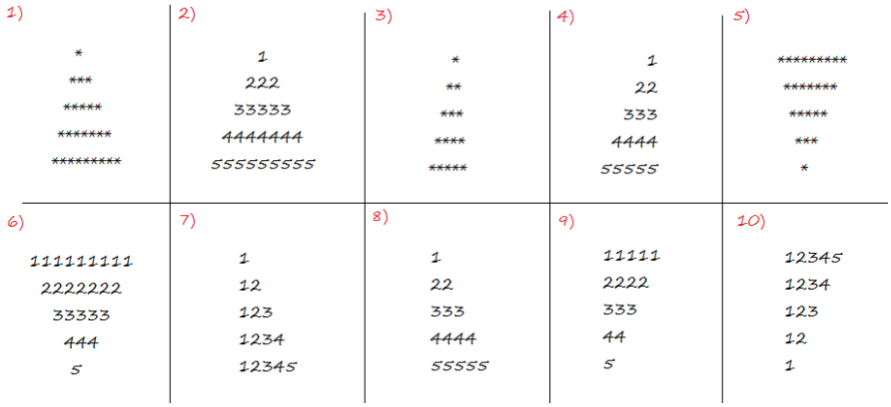
- **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2: Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3: Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO4: Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools prediction and modeling to complex engineering activities with an understanding of the limitations.
- **PO6: Engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
- **PO7: Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and the need for sustainable development.
- **PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and receive clear instructions.
- **PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in team, to manage projects and in multidisciplinary environments.
- **PO12: Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

SYLLABUS

ECE 162 R22 PYTHON PROGRAMMING LABORATORY L T P C
0 0 3 1.5

LIST OF PROGRAMS

1. Write a program to demonstrate different number data types in python.
2. Write a program to perform different arithmetic operations on numbers in python
3. Write a program to create, concatenate and print a string and accessing substring from a given string
4. Write a python script to print the current date in following format "Sun May 29 02:26:23 IST 2017"
5. Write a python program to find largest of three numbers
6. Write a python program to convert temperature to and from Celsius to Fahrenheit
7. Write a python program to construct the following patterns using nested for loop:



8. Write a python program to print prime numbers less than 20
9. Write a python program to create, append and remove lists in python
10. Python program to find the union of two lists.
11. Python program to find the intersection of two lists.
12. Write a program to demonstrate working with tuples in python
13. Python program to remove the "i" th occurrence of the given word in a list where words repeat
14. Python program to count the occurrences of each word in a given string sentence.
15. Python program to check if a substring is present in a given string.
16. Write a program to demonstrate working with dictionaries in python
17. Python program to map two lists into a dictionary.
18. Python program to count the frequency of words appearing in a string using a dictionary.
19. Python program to create a dictionary with key as first character and value as words starting with that character.
20. Python program to find the length of a list using recursion.
21. Write a python program to find factorial of a number using recursion
22. Write a python program to define a module to find Fibonacci Numbers and import the module to another program
23. Write a python program to define a module and import a specific function in that module to another program
24. Python program to read a file and capitalize the first letter of every word in the file.
25. Write a script named copyfile.py. This script should prompt the user for the names of two text files. The contents of the first the second file
26. Write a Python class to implement pow(x, n)

27. Python program to read the contents of a file in reverse order.
28. Write a program that inputs a text file. The program should print all of the unique words in the file in alphabetical order
29. Python programs to demonstrate functions
30. Python program to demonstrate modules and packages
31. Python program to create a class in which one method accepts a string from the user and another prints it.
32. Write a Python class to reverse a string word by word.

Experiment(s) beyond the syllabus:

1. Write a program to demonstrate operators in python

Course Outcomes (COs):

1. Interpret the basic representation of the data structures and sequential programming

2. Knowledge and ability to use control framework terminologies.

3. Ability to work out using the core data structures as lists, dictionaries, tuples, and sets, interrupt and handle data using files to propose solution through reusable modules.

4. Propose possible error-handling constructs for unanticipated states, inputs and Implement exemplary applications on the real-world problems.

Mapping of Course Outcomes with PSOs and POs

High -3 Medium -2 Low-1

CO No.	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO 1	3	2	1	1	-	-	-	-	-	-	-	1	-	1
CO 2	3	2	1	1	-	-	-	-	-	-	-	1	-	1
CO 3	3	2	1	1	-	-	-	-	-	-	-	1	-	1
CO 4	3	2	1	1	-	-	-	-	-	-	-	1	-	1
Avg CO	**3.0**	**2.0**	**1.0**	**1.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1.0**	**-**	**1.0**

Correlation Levels: ---1: Low 2: Medium 3: Strong '- ':No correlation

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ADDITIONAL EXPERIMENT

1.	Write a program to demonstrate operators in python	**48**

PROGRAM-1

Aim:-Write a program to demonstrate different number data types in python.

Source code:-

```
x = "Hello World"
print(x)
print(type(x))
x=20
print(x)
print(type(x))
x=23.56
print(x)
print(type(x))
x = 3j
print(x)
print(type(x))
x = ["geeks", "for", "geeks"]
print(x)
print(type(x))
x = ("geeks", "for", "geeks")
print(x)
print(type(x))
x = range(10)
print(x)
print(type(x))
x = {"name": "Suraj", "age": 24}
print(x)
print(type(x))
x = {"geeks", "for", "geeks"}
```

```
print(x)
print(type(x))
x = True
print(x)
print(type(x))
x = b"Geeks"
print(x)
print(type(x))
x = bytearray(4)
print(x)
print(type(x))
x = memoryview(bytes(6))
print(x)
print(type(x))
x = None
print(x)
print(type(x))
```

Output:-

```
Hello World
<class 'str'>
20
<class 'int'>
23.56
<class 'float'>
3j
<class 'complex'>
['geeks', 'for', 'geeks']
<class 'list'>
```

('geeks', 'for', 'geeks')

<class 'tuple'>

range(0, 10)

<class 'range'>

{'name': 'Suraj', 'age': 24}

<class 'dict'>

{'geeks', 'for'}

<class 'set'>

True

<class 'bool'>

b'Geeks'

<class 'bytes'>

bytearray(b'\x00\x00\x00\x00')

<class 'bytearray'>

<memory at 0x7fcefd6f8a00>

<class 'memoryview'>

None

<class 'NoneType'>

Viva Questions:

1. What is data type?
2. Explain Classification of data type?
3. How will you know the type of particular data?
4. What data types are used in python programming?
5. Explain about integer data type?

PROGRAM-2

Aim:-Write a program to perform different arithmetic operations on numbers in python.

Source code:-

```
val1 = 2

val2 = 3

# using the addition operator

res = val1 + val2

print(res)

val1 = 2

val2 = 3

# using the subtraction operator

res = val1 - val2

print(res)

val1 = 2

val2 = 3

# using the multiplication operator

res = val1 * val2

print(res)

val1 = 2

val2 = 3

# using the division operator

res = val1 / val2

print(res)
```

Output:-

```
5

-1

60.6666666666666666
```

Viva Questions:

1. Define Arithmetic operators?
2. How many arithmetic operations in python
3. What is concatenation operator?

PROGRAM-3

Aim:-Write a program to create, concatenate and print a string and accessing substring from a given string in python.

Source code:-

```
my_string = "I love python."

# prints "love"

print(my_string[2:6])

# prints "love python."

print(my_string[2:])

# prints "I love python"

print(my_string[:-1])
```

output:-

```
love

love python.

I love python
```

Viva Questions:

1. What is a string?
2. What is slicing in strings?
3. What is indexing
4. Define sub string
5. Explain types of indexing?

PROGRAM-4

Aim:- write a python script to print the current date in the following format ”Sun May 29 02:26:23 IST 2017”

Source code:

```
import time;

ltime=time.localtime();

print(time.strftime("%a %b %d %H:%M:%s %Z %Y",ltime))
```

Output:-

```
Fri Mar 31 09:10:1680253856 UTC 2023
```

Viva Questions:

1. What is script mode in python?
2. What is interactive mode in python?
3. How script mode is used?
4. How the current date is verified?
5. Differentiate script mode and interactive mode?

PROGRAM-5

Aim:-Write a python program to find largest of three numbers.

Source code:-

```
num1 = 10

num2 = 14

num3 = 12

# uncomment following lines to take three numbers from user

#num1 = float(input("Enter first number: "))

#num2 = float(input("Enter second number: "))

#num3 = float(input("Enter third number: "))

if (num1 >= num2) and (num1 >= num3):

largest = num1

elif (num2 >= num1) and (num2 >= num3):

largest = num2

else:

largest = num3


print("The largest number is", largest)
```

Output:-

```
The largest number is 14
```

Viva Questions:

1. Define Conditional statements?
2. Explain types of conditional statements?
3. Write the syntax of if statement?
4. Explain different types of statements?

PROGRAM-6

Aim:-Write a python program to convert temperature to and from Celsius to Farenheit.

Formula:-celsius = (fahrenheit - 32) / 1.8

Source code:-

```
celsius = 37.5


# calculate fahrenheit

fahrenheit = (celsius * 1.8) + 32

print('%0.1f degree Celsius is equal to %0.1f degree Fahrenheit' %(celsius,fahrenheit))
```

Output:-

37.5 degree Celsius is equal to 99.5 degree Fahrenheit

Viva Questions:

1. Write the formulae to convert temperature?
2. Which type of output statement is used in this program?
3. Explain about comments in python
4. Define string?
5. Define Sub string?

PROGRAM-7

Aim:-Write a python program to construct the following patterns using nested for loop:

Source code:-

```
n=5;
for i in range(n):
for j in range(i):
print ('* ', end="")
print('')


for i in range(n,0,-1):
for j in range(i):
print('* ', end="")
print('')
```

Output:-

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

Source code:-

```
rows = 6

# if you want user to enter a number, uncomment the below line

# rows = int(input('Enter the number of rows'))

# outer loop

for i in range(rows):

    # nested loop

for j in range(i):

        # display number

print(i, end=' ')

    # new line after each row

print('')
```

Output:-

```
1

2 2

3 3 3

4 4 4 4

5 5 5 5 5
```

Viva Questions:

1.

PROGRAM-8

Aim:-Write a Python program to prints prime numbers less than 20.

Source code:-

```
'''Write a Python script that prints prime numbers less than 20'''

print("Prime numbers between 1 and 20 are:")

ulmt=20;

fornum in range(ulmt):

  # prime numbers are greater than 1

ifnum> 1:

for i in range(2,num):

if (num % i) == 0:

break

else:

print(num)
```

Output:-

Prime numbers between 1 and 20 are:

2

3

5

7

11

13

17

19

Viva Questions:

1. Define Prime number?
2. Define conditional statements?
3. Explain about break statement?

PROGRAM-9

Aim:-Write a python program to create, append and remove lists in python.

Source code:-

```
List = []
print("Blank List: ")
print(List)
# Creating a List of numbers
List = [10, 20, 14]
print("\nList of numbers: ")
print(List)
# Creating a List of strings and accessing
# using index
List = ["Geeks", "For", "Geeks"]
print("\nList Items: ")
print(List[0])
print(List[2])
my_list = ['geeks', 'for', 'geeks']
another_list = [6, 0, 4, 1]
my_list.append(another_list)
print (my_list)
# animals list
animals = ['cat', 'dog', 'rabbit', 'guinea pig']
# Deleting 'fish' element
animals.remove('dog')
# Updated animals List
print('Updated animals list: ', animals)
```

Output:-

Blank List:

[]

List of numbers: [10, 20, 14]

List Items: Geeks

Geeks

['geeks', 'for', 'geeks', [6, 0, 4, 1]]

Updated animals list: ['cat', 'rabbit', 'guinea pig']

Viva Questions:

1. Explain lists in python?
2. Explain how to access a list?
3. What are the list methods?
4. How the list data type is represented?
5. What is meant by union?

PROGRAM-10

Aim:-python program to find union of two lists.

Source code:-

```
l1 = []
num1 = int(input('Enter size of list 1: '))
for n in range(num1):
    numbers1 = int(input('Enter any number:'))
l1.append(numbers1)
 l2 = []
num2 = int(input('Enter size of list 2:'))
for n in range(num2):
    numbers2 = int(input('Enter any number:'))
l2.append(numbers2)
union = list(set().union(l1,l2))
print('The Union of two lists is:',union)
```

Output:-

```
Enter size of list 1: 3
Enter any number:2
Enter any number:6
Enter any number:8
Enter size of list 2:5
Enter any number:6
Enter any number:9
Enter any number:8
Enter any number:3
Enter any number:4
The Union of two lists is: [2, 3, 4, 6, 8, 9]
```

Viva Questions:

1. Define lists?
2. Define Union in python?
3. How to perform union if two lists?

PROGRAM-11

Aim:-python program to find intersection of two lists.

Source code:-

```
set1 = {2, 4, 5, 6}

set2 = {4, 6, 7, 8}

set3 = {4, 6, 8}

# intersection of two sets

print("set1 intersection set2 : ",

      set1.intersection(set2))

# intersection of three sets

print("set1 intersection set2 intersection set3 :",

      set1.intersection(set2, set3))
```

Output:-

```
set1 intersection set2 :  {4, 6}

set1 intersection set2 intersection set3 : {4, 6}
```

Viva Questions:

1. Explain about intersection of lists?
2. What are different methods in lists?
3. How we use intersection in python?

PROGRAM-12

Aim:-Write a program to demonstrate working with tuples in python.

Source code:-

```
# Creating an empty Tuple

Tuple1 = ()

print("Initial empty Tuple: ")

print(Tuple1)

# Creating a Tuple

# with the use of string

Tuple1 = ('Geeks', 'For')

print("\nTuple with the use of String: ")

print(Tuple1)

# Creating a Tuple with

# the use of list

list1 = [1, 2, 4, 5, 6]

print("\nTuple using List: ")

print(tuple(list1))

# Creating a Tuple

# with the use of built-in function

Tuple1 = tuple('Geeks')

print("\nTuple with the use of function: ")

print(Tuple1)
```

Output:-

Initial empty Tuple:

()

Tuple with the use of String: ('Geeks', 'For')

Tuple using List: (1, 2, 4, 5, 6), Tuple with the use of function: ('G', 'e', 'e', 'k', 's')

Viva Questions:

1. Explain about tuple?
2. How a tuple is represented
3. How many mathematical operators are used in tuple?
4. How a single valued tuple ends?
5. How a tuple can be accessed?

Aim:- python program to remove the “i” th occurrence of the given word in a list where words repeats.

Source code:-

```
# Python3 program to remove Nth

# occurrence of the given word

# Function to remove Ith word

defRemoveIthWord(lst, word, N):

        newList = []

        count = 0

    # iterate the elements

        for i in lst:

                if(i == word):

                        count = count + 1

                        if(count != N):

                                newList.append(i)

                else:

                        newList.append(i)


        lst = newList

if count == 0:

                print("Item not found")

        else:

        print("Updated list is: ", lst)


        returnnewList

# Driver code

list = ["geeks", "for", "geeks"]

word = "geeks"
```

N = 2

Remove Ith Word(list, word, N)

Output:-

Updated list is: ['geeks', 'for']

Viva Questions:

1. What is a list?
2. What are different output statements in python?
3. Explain about the specifications of list?

PROGRAM-14

Aim:-python program to count the occurrences of each word in a given string sentences.

Source code:-

```
def word_count(str):

counts = dict()

words = str.split()

for word in words:

if word in counts:

counts[word] += 1

else:

counts[word] = 1

return counts

print(word_count('the quick brown fox jumps over the lazy dog.'))
```

Output:-

```
{'the': 2, 'quick': 1, 'brown': 1, 'fox': 1, 'jumps': 1, 'over': 1, 'lazy': 1, 'dog.': 1}
```

Viva Questions:

1. Explain string data type?
2. Give the example of string?
3. How to count number of words in string?
4. How to use count() method?

PROGRAM-15

Aim:- Python program to check if a substring is present in a given string.

Source code:-

```
def check(str1, sstr):
if (str1.find(sstr) == -1):
print(sstr,"IS NOT PRESENT IN THE GIVEN STRING")
else:
print(sstr,"IS PRESENT IN THE GIVEN STRING")
# Driver code
str1 = input("Enter the string ::>")
sstr=input("Enter Substring ::>")
check(str1, sstr)
```

Output:

```
Enter the string ::> python program
Enter Substring ::> program
program IS PRESENT IN THE GIVEN STRING
Enter the string ::> python program
Enter Substring ::> programming
programming IS NOT PRESENT IN THE GIVEN STRING
```

Viva Questions:

1. Define sub string?
2. How to access a string?
3. Define slicing?
4. Define indexing?

PROGRAM-16

Aim:-Write a program to demonstrate working with dictionaries in python.

Source code:-

```
# Creating a Dictionary

# with Integer Keys

Dict = {1: 'Geeks', 2: 'For', 3: 'Geeks'}

print("\n Dictionary with the use of Integer Keys: ")

print(Dict)

# Creating a Dictionary

# with Mixed keys

Dict = {'Name': 'Geeks', 1: [1, 2, 3, 4]}

print("\n Dictionary with the use of Mixed Keys: ")

print(dict)
```

Output:-

```
Dictionary with the use of Integer Keys:

{1: 'Geeks', 2: 'For', 3: 'Geeks'}

Dictionary with the use of Mixed Keys: {'Name': 'Geeks', 1: [1, 2, 3, 4]}
```

Viva Questions:

1. Explain dictionary data type in python?
2. How to access a dictionary?
3. How to create a dictionary?
4. How to modify the existing value in the dictionary?
5. Explain about keys in dictionary?

Aim:-python program to map two lists into a dictionary.

Source code:-

```
keys = ['red', 'green', 'blue']

values = ['#FF0000','#008000', '#0000FF']

color_dictionary = dict(zip(keys, values))

print(color_dictionary)
```

Output:-

```
{'red': '#FF0000', 'green': '#008000', 'blue': '#0000FF'}
```

Viva Questions:

1. Explain about the key value pair in dictionary?
2. Explain the specifications in dictionary?
3. Is dictionary mutable or immutable?

PROGRAM-18

Aim:-python program to count the frequency of words appearing in a string using a dictionary.

Source code:-

```
my_string = input("Enter the string :")

my_list=[]

my_list=my_string.split()

word_freq=[my_list.count(p) for p in my_list]

print("The frequency of words is ...")

print(dict(zip(my_list,word_freq)))
```

Output:-

```
Enter the string: hi suma how r u suma

The frequency of words is ...

{'hi': 1, 'suma': 2, 'how': 1,’r’:1,’u’:1}
```

Viva Questions:

1. Explain about key value pairs in dictionary?
2. Which function is used to delete the specified key?

PROGRAM-19

Aim:-python program to create a dictionary with key as first character and value as words starting with that character.

Source code:-

```
my_string=input("Enter the string :")

split_string = my_string.split()

my_dict={}

forelem in split_string:

if(elem[0] not in my_dict.keys()):

my_dict[elem[0]]=[]

my_dict[elem[0]].append(elem)

else:

if(elem not in my_dict[elem[0]]):

my_dict[elem[0]].append(elem)

print("The dictionary created is")

fork,v in my_dict.items():

print(k,":",v)
```

Output:-

```
Enter the string :Hey Jane, how are you

The dictionary created is

H : ['Hey']

J : ['Jane,']

h : ['how']

a : ['are']

y : ['you']
```

Viva Questions:

1. How to access keys in dictionary?
2. How to create the duplicate of dictionary?

PROGRAM-20

Aim:- Python program to find the length of a list using recursion.

Source code:-

```
deflist_length(my_list):
  if not my_list:
    return 0
  return 1 + list_length(my_list[1::2]) + list_length(my_list[2::2])
my_list = [1, 2, 3, 11, 34, 52, 78]
print("The list is :")
print(my_list)
print("The length of the string is : ")
print(list_length(my_list))
```

Output:-

The list is :

[1, 2, 3, 11, 34, 52, 78]

The length of the string is :

7

Viva Questions:

1. What is recursion?
2. How recursion is used as a loop statement?

PROGRAM-21

Aim:-python program to find factorial of a number using recursion

Source code:-

```
deffactorial(n):

    if(n==1orn==0):

        return1

    else:

        return(n *factorial(n -1))

# Driver Code
num =5;
print("number : ",num)
print("Factorial : ",factorial(num))
```

output:-

```
number :  5
Factorial :  120
```

Viva Questions:

1. What is the use of recursion?
2. How to terminate loop in recursion?
3. What is factorial?
4. Explain different types of factorials?

PROGRAM-22

Aim:- Write a python program to define a module to find Fibonacci Numbers and import the module to another program

Source code:-

```
def Fibonacci(n):

if n<0:

print(“Incorrect input”)

elif n==0:

return 0

elif  n==1 or  n==2:

return 1

else:

return Fibonacci(n-1)+ Fibonacci(n-2)

print(Fibonacci(9))
```

output:-

34

Viva Questions:

1. Explain module?
2. Explain built in modules in python?
3. Explain types of python modules?
4. How to import module in python?
5. What are user defined modules?

Aim:- Write a python program to define a module and import a specific function in that module to another program

Source code:-

```
Import math

Print("The value of pi is",math.pi)
```

Output:-

```
The value of pi is 3.141592653589793
```

Viva Questions:

1. Explain types of modules in python?
2. What is the main module of python?
3. What is the use of modules in python?

PROGRAM-24

Aim:- Python program to read a file and capitalize the first letter of every word in the file.

Source code:-

```
defsolve(s):
words=s.split(' ')
ret=[]
for i in words:
ret.append(i.capitalize())
return' '.join(ret)


s ="i love my country"
print(solve(s))
```

output:-

I Love My Country

Viva Questions:

1. How to create a file in python?
2. What are different types of files in python?
3. What is the use of file in python?
4. What is the function of file?

PROGRAM-25

Aim:- Write a script named copyfile.py. This script should prompt the user for the names of two text files. The contents of the first the second file

Source code:-

file1.txt

```
This is python program
welcome to python
```

```
'''Write a script named copyfile.py. This script should prompt the user for the names of two text
files. The contents of the first file should be input and written to the second
file'''
file1=input("Enter First Filename : ")
file2=input("Enter Second Filename : ")
# open file in read mode
fn1 = open(file1, 'r')

# open other file in write mode
fn2 = open(file2, 'w')

# read the content of the file line by line
cont = fn1.readlines()
#type(cont)
for i in range(0, len(cont)):
fn2.write(cont[i])

# close the file
fn2.close()
print("Content of first file copied to second file ")

# open file in read mode
fn2 = open(file2, 'r')

# read the content of the file
cont1 = fn2.read()
```

```
# print the content of the file
print("Content of Second file :")
print(cont1)

# close all files
fn1.close()
fn2.close()
```

Output:-

```
E:\Python>python week16.py
Enter First Filename : file1.txt
Enter Second Filename : file2.txt
Content of first file copied to second file
Content of Second file :
Hai..
Bye...
welcome..
```

.

Viva Questions:

1. How to copy a file?
2. How many types of copy files are there?
3. What is a copy method?
4. What is the use of copy?
5. What are two easy of copying?

PROGRAMt-26

Aim:- Write a Python class to implement pow(x, n)

Source code:-

```
# Python3 program for the above approach
def power(x, n):

        # initialize result by 1
        pow = 1

        # Multiply x for n times
        for i in range(n):
                pow = pow * x

        returnpow



# Driver code
if __name__ == '__main__':

        x = 2
        n = 3

        # Function call
        print(power(x, n))
```

output:-

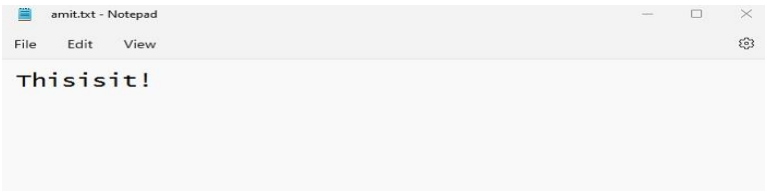
8

Viva Questions:

1. What is time complexity of pow?
2. What is the function of pow?
3. What is pow symbol in python?
4. What is the minimum element time complexity?
5. What is the full form of pow?

PROGRAM-27

Aim:- Python program to read the contents of a file in reverse order.
Input file:-



Source code:-

```
# The file to be read

withopen("amit.txt","r")asmyfile:

my_data=myfile.read()

# Reversing the data by passing -1 for [start: end: step]

rev_data=my_data[::-1]

# Displaying the reversed data

print("Reversed data = ",rev_data)
```

output:-

```
Reversed data = !tisisihT
```

Viva Questions:

1. How to read data from file?
2. Hoe to access a file?
3. How to create a file?
4. How to arrange a files in alphabetical order?

PROGRAM-28

Aim:- Write a program that inputs a text file. The program should print all of the unique words in the file in alphabetical order

Source code:-

file1.txt

```
This is python program
welcome to python
"Write a program that inputs a text file. The program should print all of the unique
words in the file in alphabetical order'"
```

```
fname = input("Enter file name: ")
fh = open(fname)
lst = list()                    # list for the desired output
words=[];
for line in fh:                  # to read every line of file romeo.txt
words += line.split()
words.sort()

# display the sorted words

print("The unique words in  alphabetical order are:")
for word in words:
if word in lst:         # if element is repeated
continue              # do nothing
else:                   # else if element is not in the list
lst.append(word)
print(word)
#print(lst)
```

Output:-

```
E:\Python>python week17.py
Enter file name: file1.txt
The unique words in  alphabetical order are:
IS
PROGRAM
PYTHON
THIS
TO
WELCOME
```

Viva Questions:

1. How to create file in python?
2. How to open a file?

PROGRAM-29

Aim:- Python programs to demonstrate functions.

Source code:-

```
# A simple Python function
def fun():
        print("Welcome to GFG")


# Driver code to call a function
fun()
```

Output:-

Welcome to GFG

Viva Questions:

1. Explain about functions in python?
2. Explain different types of functions in python?
3. How to call a function in python?
4. What are the keywords in function?
5. Define keyword?

PROGRAM-30

Aim:- Python program to demonstrate modules and packages.

Source code:-

Save this code in a file named mymodule.py

```
def greeting(name):
  print("Hello, " + name)
```

Import the module named mymodule, and call the greeting function:

```
import mymodule

mymodule.greeting("python")
```

Output:-

Hello,python

Viva Questions:

1. Define module?
2. What is the syntax of module?
3. What is the need of module in python?
4. How to call module in python?

PROGRAM-31

Aim:- Python program to create a class in which one method accepts a string from the user and another prints it.

Source code:-

```
classprint_it():
  def __init__(self):
    self.string=""
  defget_data(self):
    self.string=input("Enter the string : ")
  defput_data(self):
    print("The string is:")
    print(self.string)
print("An object of the class is being created")
my_instance=print_it()
print("The 'get_data' method is being called")
my_instance.get_data()
print("The 'put_data' method is being called")
my_instance.put_data()
```

Output:-

An object of the class is being created

The 'get_data' method is being called

Enter the string :janewill

The 'put_data' method is being called

The string is:

Janewill

Viva Questions:

1. Explain different output functions?
2. How many methods does string have?
3. How a data can be accessed in a string?

PROGRAM-32

Aim:- Write a Python class to reverse a string word by word.

Source code:-

```
# Python code
# To reverse words in a given string

# input string
string = "geeks quiz practice code"
# reversing words in a given string
s = string.split()[::-1]
l = []
for i in s:
        # appending reversed words to l
        l.append(i)
# printing reverse words
print(" ".join(l))
```

output:-

code practice quiz geeks

Viva Questions:

1. Explain about string data type?
2. How to define multi lined string?
3. How to find a sub string?
4. How to access a string?

ADDITIONAL EXPERIMENT

Aim:- Write a program to demonstrate operators in python.

Source code:-

```
a=7

b=2

# addition

print (‘sum: ’, a + b)

#subtraction

Print (‘Subtraction: ’, a – b)

#multiplication

Print (‘Multiplication: ’, a * b)

#division

Print (‘Division: ’, a / b)
```

Output:

Sum: 9

Subtraction: 5

Multiplication : 14

Division :3.5

Viva Questions:

1. What is an Operator?
2. Explain Different operators in python?