JUSCO SCHOOL, KADMA

COMPUTER PRACTICAL REPORT FILE

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Submitted By

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1. Write a program in Python to check a number whether it is prime or not.

CODE:

```
num=int(input("Enter a number:"))
if num>1:
    for i in range(2,num):
        if(num%1)==0:
            print(num,"is not a prime number")
            print(i,"times",num//i,"is",num)
            break
    else:
        print(num,"is a prime number")
else:
    print(num,"is not a prime number")
```

OUTPUT:

```
Enter a number:5
5 is not a prime number
2 times 2 is 5
>>>
```

2. Write a program in Python to check a number whether it is palindrome or not.

CODE:

```
n= int(input("Enter number:"))
temp=n
rev=0
while(n>0):
    dig=n%10
    rev=rev*10+dig
    n=n//10
if(temp==rev):
    print("The number is a palindrome!")
else:
    print("The number is not a palindrome!")
```

OUTPUT:

```
Enter number:7
The number is a palindrome!
```

3. Write a program in Python to accept (input) a character from user and print whether a given character is an alphabet, digit or any other character.

CODE:

```
ch=input("Enter any character:")
if ch[0].isalpha():
    print("\n"+ch[0],"is an ALPHABET.")
elif ch[0].isdigit():
    print("\n"+ch[0],"is a DIGIT.")
else:
    print("\n"+ch[0],"is a SPECIAL DIGIT.")
```

OUTPUT:

```
Enter any character:@

@ is a SPECIAL DIGIT.
```

4. Write a program to print Fibonacci series.

CODE:

```
nterms=int(input("How mamy terms?"))
n1,n2,=0,1
count=0
if nterms<=0:
    print("Please enter a positive integer")
elif nterms==1:
    print("Fibonacci sequence upto",nterms,":")
    print(n1)
else:
    print("Fibonacci sequence:")
    while count<nterms:
        print(n1)
        nth=n1+n2
        n1=n2
        n2=nth
        count+=1
```

OUTPUT:

```
How mamy terms?7
Fibonacci sequence:
0
1
1
2
3
5
8
```

5. Write a program in Python for Binary Search.

CODE:

```
def binarySearch(arr, start, end, x):
      if end >= start:
         mid = start + (end- start)//2
         if arr[mid] == x:
            return mid
         elif arr[mid] > x:
            return binarySearch(arr, start, mid-1, x)
         else:
            return binarySearch(arr, mid+1, end, x)
      else:
         return -1
arr = sorted([40,50,60,70,80])
```

OUTPUT:

```
Element is present at index 0
```

6. Write a program to generate random numbers between 1 to 6 and check whether a user won a lottery or not.

CODE:

```
import random
n=random.randint(0,7)
n1=int(input("Enter your number"))
if(n1==n):
    print("Congrulations you have won the Lottery")
else:
    print("Sorry, try again next time")
print("The random number was",n)
```

OUTPUT:

```
Enter your number5
Sorry, try again next time
The random number was 1
```

7. Write a Python program to calculate sum of series $1^2+2^2+3^2+\ldots\ldots+n^2$ using for loop.

CODE:

```
n=int(input("Enter range"))
s=0
for i in range(0,n+1):
    p=i**2
    s=s+p
print("The sum of squares to the no. is",s)
```

OUTPUT:

```
Enter range7
The sum of squares to the no. is 140
```

8. Write a Python program to Count Vowels and Consonants in a given string.

CODE:

```
n=input("Enter word ")
l=len(n)
v=0
c=0
for i in range(0,l):
   if (n[i]=="a" or n[i]=="e" or n[i]=="i" or n[i]=="o" or n[i]=="u"):
      v=v+1
   else:
      c=c+1
print("The no of Vowels in the sentence is: ",v)
print("The no of Consonants in the sentence is: ",c)
```

OUTPUT:

```
Enter word ayushdubey
The no of Vowels in the sentence is:  4
The no of Consonants in the sentence is:  6
```

9. Write a Python program to find last occurrence of a character in a given string.

CODE:

```
str=input("Enter sentence: ")
lt=input("Enter letter: ")
cf=str.rfind(lt)
print("The Last Occurence Of",lt,"Is Found At Position",cf)
```

OUTPUT:

```
Enter sentence: ayush is the best
Enter letter: t
The Last Occurence Of t Is Found At Position 16
```

10. Write a Python program to check if a given key exists in a dictionary myDict, or not.

CODE:

```
def checkKey(dict, key):

    if key in dict.keys():
        print("Present, ", end =" ")
        print("value =", dict[key])
    else:
        print("Not present")

dict = {'a': 100, 'b':200, 'c':300}

key = 'c'
checkKey(dict, key)

key = 'w'
checkKey(dict, key)
```

OUTPUT:

```
Present,  value = 300
Not present
```

11. Write a Python program to find Perfect number using for loop.

CODE:

```
Number = int(input(" Please Enter any Number: "))
Sum = 0
for i in range(1, Number):
    if(Number % i == 0):
        Sum = Sum + i
if (Sum == Number):
    print(" The Number is a Perfect Number" ,Number)
else:
    print(" The Number is not a Perfect Number" ,Number)
```

OUTPUT:

```
Please Enter any Number: 6
The Number is a Perfect Number 6
```

12. Write a Python program to find roots of a Quadratic Equation.

CODE:

```
a=int(input("Enter the coefficient of x^2 ."))
b=int(input("Enter the coefficient of x."))
c=int(input("Enter the value of constant"))
s1=(b**2)+(4*a*c)
s2=(b**2)-(4*a*c)
print("The 1st root of the equation is: ",s1)
print("The 2nd  root of the equation is: ",s2)
```

OUTPUT:

```
Enter the coefficient of x^2 .3
Enter the coefficient of x.5
Enter the value of constant7
The 1st root of the equation is:  109
The 2nd  root of the equation is:  -59
```

13. Write a Python program to replace Blank Space with hyphen in a given string.

CODE:

```
string=input("Enter string:")
string=string.replace(' ','-')
print("Modified string:")
print(string)
```

OUTPUT:

```
Enter string:hello universe hii
Modified string:
hello-universe-hii
```

14. Write a Python program to print the series 2,15,41,80,132,197.... till n terms, using function.

CODE:

```
def printSeries(N):
    ith_term = 0;

    for i in range(1, N + 1):
        ith_term = (13 * i * (i - 1)) / 2 + 2;
        print(int(ith_term), ", ", end = "");

N =int(input("Enter The range: "))
printSeries(N)
```

OUTPUT:

```
Enter The range: 9
2 , 15 , 41 , 80 , 132 , 197 , 275 , 366 , 470 ,
```

15. Write a Python program to find the sum of the series 1/2 - 2/3 + 3/4 - 4/5+….till n terms, using function.

CODE:

```
def printSeriesSum(N) :
    sum = 0;
    for i in range(1, N + 1) :
        if (i & 1) :
            sum += i / (i + 1);
        else :
            sum -= i / (i + 1);
    print(sum)
N = int(input("Enter the Range: "))
printSeriesSum(N)
```

OUTPUT:

```
Enter the Range: 7
0.6345238095238096
```

16. Write a Python program to print the series 1,9,17,33,49,73,97.... till n terms, using function.

CODE:

```
def printSeries(N):
    ith_term = 0;
    for i in range(1,N+1):
        ith_term = 0;
        if(i % 2 == 0):
            ith_term = 2 * i * i + 1;
        else:
            ith_term = 2 * i * i - 1;
        print(ith_term,end= ", ");
N =int(input("Enter the Range: "))
printSeries(N);
```

OUTPUT:

```
Enter the Range: 14
1, 9, 17, 33, 49, 73, 97, 129, 161, 201, 241, 289, 337, 393,
```

17. Write a Python program to find the sum of the series 1+11+111+1111+...up to n terms, using function.

CODE:

```
def summation(n):
    sum = 0
    j = 1
    for i in range(1, n + 1):
        sum = sum + j
        j = (j * 10) + 1
    return sum
n =int(input("Enter The Range: "))
print(summation(n))
```

OUTPUT:

```
Enter The Range: 13
1234567901233
```

18. Write a program to create a library in Python and import it in a program.

CODE:

```
class Rectangle:
    def_init_(self):
        print("Rectangle")
    def Area(self,length,width):
        self.l=length
        self.w=width
        print("Area of Rectangle is:",self.l*self.w)
class Square:
    def_init_(self):
        print("Square")
    def Area(self,side):
        self.a=side
        print("Area of square is:",self.a*self.a)
class Triangle:
    def_init_(self):
        print("Triangle")
    def Area(self,base,height):
        self.b=base
        self.h=height
        ar=(1/2)*self.b*self.h
        print("Area of Triangle is:",ar)
        from Shape import Rect
        from Shape import Sq
        from Shape import Tri
        r=Rect.Rectangle()
        r.Area(10,20)
        argument
        s=Sq.Square()
        s.Area(10)
        t=Tri.Triangle()
        t.Area(6,8)
```

OUTPUT:

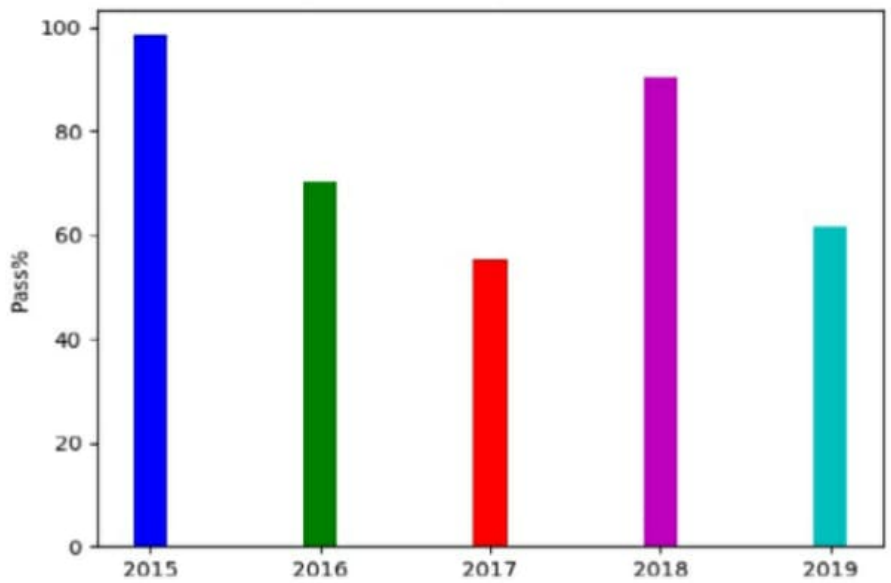
```
Rectangle
Area of Rectangle is: 200
Square
Area of square is: 100
Triangle
Area of Triangle is: 24.0
```

19. Write a program to plot a bar chart in python to display the result of a school for five consecutive years.

CODE:

```
import matplotlib.pyplot as pl
year=['2015','2016','2017','2018','2019']
p=[98.50,70.25,55.20,90.5,61.50]
j=['b','g','r','m','c']
pl.bar(year,p,width=0.2,color=j)
pl.xlabel("year")
pl.ylabel("Pass%")
pl.show()
```

OUTPUT:

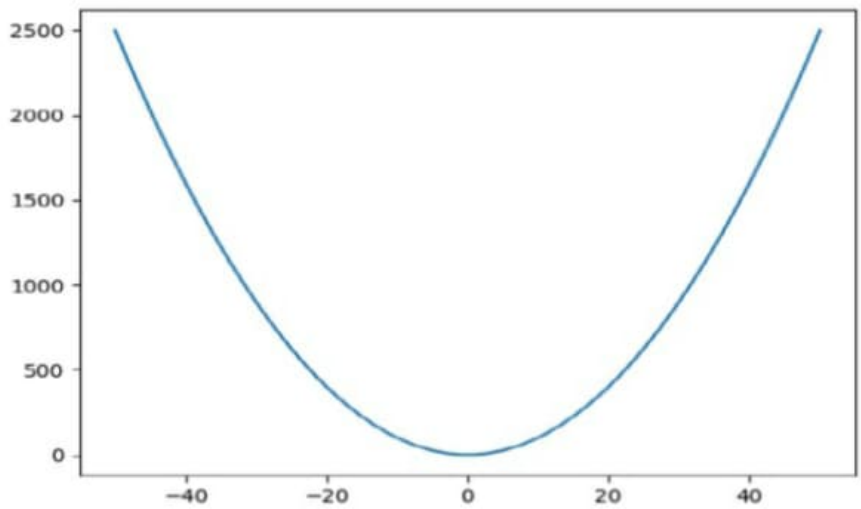


20. Write a program in python to plot a graph for the function $y = x^2$.

CODE:

```
11    import matplotlib.pyplot as pl
12    import numpy as np
13    x=np.linspace(-50,50);
14    y=x**2
15    pl.plot(x,y,linestyle='-')
16    pl.show()
```

OUTPUT:

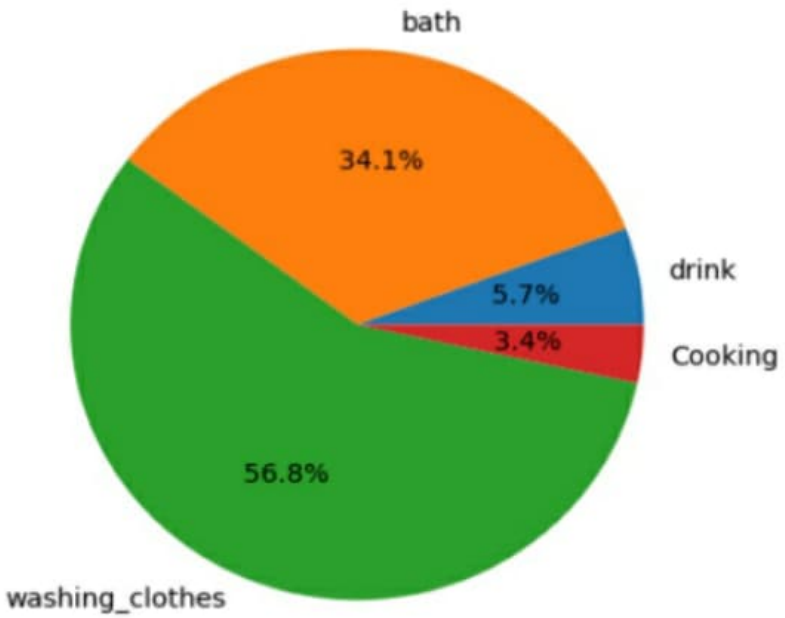


21. Write a program in python to plot a pie chart on consumption of water in daily life.

CODE:

```
import matplotlib.pyplot as pl
consumption=[5,30,50,3]
pl.pie(consumption,labels=['drink','bath','washing_clothes','Cooking'],autopct='%1.1f%%')
pl.show()
```

OUTPUT:



22. Write a menu based program to perform the operation on stack in python.

CODE:

```
class Stack:
    def_init_(self):
        self.items=[]
    def isEmpty(self):
        return self.items==[]
    def push(self,item):
        self.items.append()
    def pop(self):
        return self.items.pop()
    def peek()
    return self.items[len(self.items)-1]
    def size(self):
        return len(self.items)
s=Stack()
print("MENU BASED STACK")
cd=True
while cd:
    print("1.Push")
    print("2.Pop")
    print("3.Display")
    print("4.Size of Stack")
    print("5.Value at Top")
    choice=int(input("Enter your choice(1-5):"))
    if choice==1:
        val=input("Enter the element:")
        s.push(val)
        elif choice==2:
            if s.items==[]:
                print("Stack is empty")
            else:
                print("Deleted element is:",s.pop())
        elif choice==3:
            print(s.items)
        elif choice==4:
            print("Size of stack is:",s.size())
        elif choice==5:
            print("Value of top element is:",s.speak())
            else:
                print("You entered wrong choice")
                print("Do you want to continue?Y/N")
                option=input()
                if option=='y' or option=='Y':
                    var=True
                else:
                    var=False
```

OUTPUT:

```
MENU BASED STACK

1. Push
2. Pop
3. Display
4. Size of Stack
5. Value at Top

Enter your choice(1-5):1

Enter the element:45

Do you want to continue?Y/N

y

1. Push
2. Pop
3. Display
4. Size of Stack
5. Value at Top

Enter your choice(1-5):3

['45']

Do you want to continue?Y/N

y

1. Push
2. Pop
3. Display
4. Size of Stack
5. Value at Top
```

23. Write a program to count the number of vowels present in a text file.

CODE:

```
fin=open("D:\python.txt","r")
str=fin.read()
count=0
for i in str:
    if (i=='a' or i=='e' or i=='i' or i=='o' or i=='u'
        or i=='A' or i=='E' or i=='I' or i=='O' or i=='U'):
        count+=1
print("Number of vowels",count)
fin.close()
```

TEXT:

```
Football is a family of team sports that involve, to varying degrees, kicking a ball to score a goal.
Unqualified, the word football normally means the form of football that is the most popular where the word is used.
Sports commonly called football include association football (known as soccer in some countries);
gridiron football (specifically American football or Canadian football);
Australian rules football; rugby football (either rugby union or rugby league);
and Gaelic football.[1][2] These various forms of football share to varying extent
common origins and are known as football codes.
```

OUTPUT:

```
Number of vowels 189
```

24. Write a program to count of number of words in a file.

CODE:

```
fin=open("D:\py1.txt","r")
str=fin.read()
L=str.split()
count_words=0
for i in L:
    count_words=count_words+1
print(count_words)
```

TEXT:

```
Football is a family of team sports that involve, to varying degrees, kicking a ball to score a goal.
Unqualified, the word football normally means the form of football that is the most popular where the word is used.
Sports commonly called football include association football (known as soccer in some countries);
gridiron football (specifically American football or Canadian football);
Australian rules football; rugby football (either rugby union or rugby league);
and Gaelic football.[1][2] These various forms of football share to varying extent
common origins and are known as football codes.
```

OUTPUT:

```
91
```

25. Write a program to find the most common words in a file.

CODE:

```
import collections
fin=open("D:\pyth1.txt","r")
a=fin.read()
d={}
L=a.lower().split()
for word in L:
    word=word.replace(".","")
    word=word.replace(",","")
    word=word.replace(":","")
    word=word.replace("\"","")
    word=word.replace("!","")
    word=word.replace("&","")
    word=word.replace("'","")
for k in L:
    key=k
    if key not in d:
        count=L.count(key)
        d[key]=count
n_print=int(input("How many most common words to print:"))
print("\nOK.The{}most common words are as follows\n".format(n print))
word_counter=collections.Counter(d)
for word,count in word_counter.most_common(n_print):
    print(word,":",count)
fin.close()
```

TEXT:

```
Football is a family of team sports that involve, to varying degrees, kicking a ball to score a goal.
Unqualified, the word football normally means the form of football that is the most popular where the word is used.
Sports commonly called football include association football (known as soccer in some countries);
gridiron football (specifically American football or Canadian football);
Australian rules football; rugby football (either rugby union or rugby league);
and Gaelic football.[1][2] These various forms of football share to varying extent
common origins and are known as football codes.
```

OUTPUT:

```
How many most common words to print:5

OK.The 5 most common words are as follows

the: 23
a: 30
is: 29
in: 26
to: 19
```

26. Write a program to connect Python with MySQL using database connectivity and perform the Create and Insert Data operation.

CODE:

CREATE A TABLE

```
import mysql.connector
demodb = mysql.connector.connect(host="localhost", user="root",
passwd="computer", database="EDUCATION")
democursor=demodb.cursor( )
democursor.execute("CREATE TABLE STUDENT (admn_no int primary key,
sname varchar(30), gender char(1), DOB date, stream varchar(15), marks
float(4,2))")
```

INSERT THE DATA

```
import mysql.connector
demodb = mysql.connector.connect(host="localhost", user="root",
passwd="computer", database="EDUCATION")
democursor=demodb.cursor( )
democursor.execute("insert into student values (%s, %s, %s, %s, %s, %s)",
(1245, 'Arush', 'M', '2003-10-04', 'science', 67.34))
demodb.commit( )
```

27. Write a program to connect Python with MySQL using database connectivity and perform the Update operation.

CODE:

UPDATE THE RECORD

```
import mysql.connector
demodb = mysql.connector.connect(host="localhost", user="root",
passwd="computer", database="EDUCATION")
democursor=demodb.cursor( )
democursor.execute("update student set marks=55.68 where
admn_no=1356")
demodb.commit( )
```

28. Write a program to connect Python with MySQL using database connectivity and perform the Fetch operation.

CODE:

FETCH THE DATA

```
import mysql.connector
demodb = mysql.connector.connect(host="localhost", user="root",
passwd="computer", database="EDUCATION")
democursor=demodb.cursor( )
democursor.execute("select * from student")
for i in democursor:
print(i)
```

29. Write a program to connect Python with MySQL using database connectivity and perform the Delete operation.

CODE:

DELETE THE DATA

```
import mysql.connector
demodb = mysql.connector.connect(host="localhost", user="root",
passwd="computer", database="EDUCATION")
democursor=demodb.cursor( )
democursor.execute("delete from student where admn_no=1356")
demodb.commit( )
```

30. Write a program in Python to show complete Binary file operator like,
    What is the file name?
    What is the encoding format?
    Size of the file is:
    Cursor position is at byte:
    Content of the file is:
    Data present at current line is:

    CODE:

test.py

```
1  my_file = open("C:/Documents/Python/test.txt", mode="w+")
2  print("What is the file name? ", my_file.name)
3  print("What is the mode of the file? ", my_file.mode)
4  print("What is the encoding format?", my_file.encoding)
5
6  text = ["Hello Python\n", "Good Morning\n", "Good Bye"]
7  my_file.writelines(text)
8  print("Size of the file is:", my_file.__sizeof__())
9  print("Cursor position is at byte:", my_file.tell())
10 my_file.seek(0)
11 print("Content of the file is:", my_file.read())
12 my_file.close()
13
14 file = open("C:/Documents/Python/test.txt", mode="r")
15 line_number = 3
16 current_line = 1
17 data = 0
18 for line in file:
19     if current_line == line_number:
20         data = line
21         print("Data present at current line is:", data)
22         break
23     current_line = current_line + 1
24
25 bin_file = open("C:/Documents/Python/bfile.exe", mode="wb+")
26 message_content = data.encode("utf-32")
27 bin_file.write(message_content)
28 bin_file.seek(0)
29 bdata = bin_file.read()
30 print("Binary Data is:", bdata)
31 ndata = bdata.decode("utf-32")
32 print("Normal Data is:", ndata)
33 file.close()
34 bin_file.close()
```

OUTPUT:

```
What is the file name?  C:/Documents/Python/test.txt
What is the mode of the file?  w+
What is the encoding format? cp1252
Size of the file is: 192
Cursor position is at byte: 36
Content of the file is: Hello Python
Good Morning
Good Bye
Data present at current line is: Good Bye
Binary Data is: b'\xff\xfe\x00\x00G\x00\x00\x00o\x00\x00\x00o\x00\x00\x00d\x00\x00\x00
 \x00\x00\x00B\x00\x00\x00y\x00\x00\x00e\x00\x00\x00'
Normal Data is: Good Bye
Process finished with exit code 0
```