MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES, TIRUVALLA (MACFAST)

(Affiliated to Mahatma Gandhi University, Kottayam)

MACFAST

MCA CT 305 PYTHON PROGRAMMING FOR DATA SCIENCE

PRACTICAL RECORD

Department of Computer Applications

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MCA CT 305 PYTHON PROGRAMMING FOR DATA SCIENCE

PRACTICAL RECORD

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Semester : 3

Subject : PYTHON PROGRAMMING FOR DATA SCIENCE

*Certified that this is a bonafide record of the practical work done by Mrs…NISSY SUNNY …. RegNo:**…223242210571…**in the Department of Computer Applications During 2022-2024 at Mar Athanasios College for Advanced Studies, Tiruvalla (MACFAST).*

Faculty in Charge **Head of the Department**

Examiners

1……

2……

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PROGRAM NO:1

ODD OR EVEN

DATE: 9/10/23

AIM: TO CHECK WHETHER THE GIVEN NUMBER IS ODD OR EVEN

SOURCE CODE:

```
n=int(input("Enter a number:"))
if n%2==0:     print(n,"is an
Even number") else:
print(n,"is an Odd number")
```

OUTPUT:

```
s/python programs/oddoreven.py
Enter a number:56
56 is an Even number
```

```
s/python programs/oddoreven.py
Enter a number:79
79 is an Odd number
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:2

LARGEST OF THREE NUMBERS

DATE: 9/10/23

AIM: TO FIND THE LARGEST OF THREE NUMBERS

SOURCE CODE:

```
a=int(input("Enter first number:"))
b=int(input("Enter second
```

```
number:")) c=int(input("Enter third

number:"))  if a>b:     if a>c:

      print(a,"is Largest")

else:

      print(c,"is Largest")

else:     if b>c:

      print(b,"is Largest")

else:

      print(c,"is Largest")
```

OUTPUT:

```
/python programs/largestof3nos.py
Enter first number:45
Enter second number:22
Enter third number:13
45 is Largest

/python programs/largestof3nos.py
Enter first number:66
Enter second number:78
Enter third number:45
78 is Largest

/python programs/largestof3nos.py
Enter first number:45
Enter second number:34
Enter third number:98
98 is Largest
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:3

SUM OF DIGITS OF A NUMBER

DATE: 26/10/23

AIM: TO FIND THE SUM OF THE DIGITS OF A NUMBER

SOURCE CODE:

```
n=int(input("Enter a number:"))

digit=0 s=0 while n>0:
```

```
digit=n%10     s=s+digit
n=n//10 print("Sum of
digits=",s)
```

OUTPUT:

```
/python programs/sumofdigits.py
Enter a number:345
Sum of digits= 12
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:4

PALINDROME OR NOT

DATE: 26/10/23

AIM: CHECK WHETHER THE GIVEN NUMBER IS PALINDROME OR NOT

SOURCE CODE:

```
n=int(input("Enter a number:")) n1=n
d=0 r=0 while n>0:     d=n%10
r=r*10+d     n=n//10 if r==n1:
print(r,"is a palindrome number") else:
print(r,"is not a palindrome number")
```

OUTPUT

```
/python programs/palindrome.py
Enter a number:121
121 is a palindrome number
```

```
/python programs/palindrome.py
Enter a number:133
331 is not a palindrome number
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:5

ARMSTRONG NUMBER OR NOT

DATE: 26/10/23

AIM: TO CHECK WHETHER THE GIVEN NUMBER IS ARMSTRONG OR NOT

SOURCE CODE:

```
n=int(input("Enter a number:")) n1=n
d=0 s=0 while n>0:     d=n%10
s=s+(d*d*d)     n=n//10 if s==n1:
print(n1,"is a Armstrong number") else:
print(n1,"is not a Armstrong number")
```

OUTPUT:

```
/python programs/armstrong.py
Enter a number:153
153 is a Armstrong number
```

```
/python programs/armstrong.py
Enter a number:167
167 is not a Armstrong number
```

RESULT: **THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED**

PROGRAM NO:6

ARMSTRONG NUMBER BETWEEN THE LIMITS

DATE: 26/10/23

AIM : TO PRINT ARMSTRONG NUMBER BETWEEN 100 AND 1000 SOURCE

CODE:

```
print("The Armstrong number between 100 and 1000")
for n in range(100,1000):    tmp=n    s=0    while
n>0:        rem=n%10        s=s+(rem*rem*rem)
n=n//10    if s==tmp:        print(tmp)
```

OUTPUT:

```
programs/armstronglimit.py
The Armstrong number between 100 and 1000
153
370
371
407
```

RESULT: **THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED**

PROGRAM NO:7

PATTERN PRINTING

DATE: 26/10/23

AIM: TO PRINT THE PATTERN

```
      *

*   *

*   *   *

*   *   *   *       *

    *   *   *   *
```

SOURCE CODE:

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

OUTPUT:

```
/python programs/pattern.py
Enter the number of rows:5
*
**
***
****
*****
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:8

FIBONACCI SERIES

DATE:27/10/23

AIM : TO PRINT THE FIBONACCI SERIES SOURCE

CODE:

```
n=int(input("Enter the no:of terms:"))
n1=0 n2=1 count=0 if n<0:
   print("Please enter a positive integer,the given number is not valid")
elif n==1:     print("The Fibonacci series:")     print(n1) else:
print("The Fibonacci series of the number is:") while count<n:
   print(n1)
nth=n1+n2
n1=n2
n2=nth
count+=1
```

OUTPUT:

```
python programs/fibonacci.py ========
Enter the no:of terms:10
The fibonacci series of the number is:
0
1
1
2
3
5
8
13
21
34
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:9

FACTORS OF A NUMBER USING FUNCTION

DATE: 27/10/23

AIM : TO FIND THE FACTORS OF A NUMBER USING FUNCTION

SOURCE CODE:

```
def print_factor(x):     print("The factors of",x,"are:")
for i in range(1,x+1):         if x%i==0:             print(i)
num1=int(input("Enter the number:"))
print_factor(num1)
```

OUTPUT:

```
python programs/factor.py
Enter the number:6
The factors of 6 are:
1
2
3
6
```

RESULT:

THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:10

FACTORIAL OF A NUMBER USING RECURSSION

DATE: 30/10/23

AIM : TO FIND THE FACTORIAL OF A NUMBER USING RECURSSION

SOURCE CODE:

```
def factnum(num):
   res=1     for i in
range(1,num+1):
      res=res*i     return
res def
factnum1(num,res):
if num<1:         return
res     else:
      return factnum1(num-1,res*num)
num=int(input("Enter the number:"))
print("\n.....")
print("Factorial of the number",num,"using iterative method is",factnum(num))
print("\n.....")
print("Factorial of the number",num,"using recursive method is",factnum1(num,1))
print("\n.....")
```

OUTPUT:

```
factorial.py ========
Enter the number:5

.........................
Factorial of the number 5 using iterative method is 120

.........................
Factorial of the number 5 using recursive method is 120

.........................
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:11

SORTING THE NUMBER USING ARRAY

DATE: 13/11/23

AIM : TO SORT THE NUMBER USING ARRAY

SOURCE CODE:

```
def sortnum(limit,ls):
   temp=0     for i in
range(limit):
       for j in range(i+1,limit):
if ls[i]>ls[j]:
temp=ls[i]
ls[i]=ls[j]
ls[j]=temp     print(ls)
numberarray=[]
limit=int(input("Enter the limit:"))
print("\n.....")
print("Enter number into array:") for
num in range(limit):
   numberarray.append(int(input()))
print("\n.....")
print("Number before sorting:\n")
print(numberarray)
print("\n.....")
print("Number after sorting:\n")
sortnum(limit,numberarray)
print("\n.....")
```

OUTPUT:

```
========= RESTART: C:/Users/kthom/Documents/python programs/sorting.py =========
Enter the limit:5

......
Enter number into array:
5
8
2
4
1

......
Number before sorting:

[5, 8, 2, 4, 1]

......
Number after sorting:

[1, 2, 4, 5, 8]
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:12

SORTING THE STRING USING ARRAY

DATE: 13/11/23

AIM : TO SORT THE STRING USING ARRAY

SOURCE CODE: def

sortstring(limt,ls):

temp=0 for i in

range(limit):

for j in range(i+1,limit):

if ls[i]>ls[j]:

temp=ls[i]

ls[i]=ls[j]

```
ls[j]=temp     print(ls)
stringarray=[]
limit=int(input("Enter the limit:"))
print("\n.....") print("Enter
string into array") for s in
range(limit):
stringarray.append(input())
print("\n.....")
print("String before sorting\n")
print(stringarray)
print("\n.....") print("String
after sorting\n")
sortstring(limit,stringarray)
print("\n.....")
```

OUTPUT:

```
====== RESTART: C:/Users/kthom/Documents/python programs/stringsorting.py ======
Enter the limit:5

..........
Enter string into array
G
D
B
C
A

.............
String before sorting

['G', 'D', 'B', 'C', 'A']

.............
String after sorting

['A', 'B', 'C', 'D', 'G']
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED

PROGRAM NO:13

FIND THE REVERSE OF A NUMBER

DATE: 13/11/23

AIM : TO FIND THE REVERSE OF A NUMBER USING TRY, EXCEPT METHOD

SOURCE CODE:

```
try:     num=int(input("Enter number:"))     sum=0
   while num>0:         d=num%10
sum=sum*10+d         num=num//10
print("Reverse of a number is:",sum)
except:     print("Enter number only")
```

OUTPUT:

```
python programs/numreverse.py
Enter number:456
Reverse of a number is: 654
```

RESULT: THE PROGRAM IS COMPILED SUCCESSFULLY AND THE OUTPUT IS OBTAINED