MEGHNAD SAHA INSTITUTE OF TECHNOLOGY

Techno Complex, Madurdaha,Beside NRI Complex, Post-Uchhepota, Kolkata 700 150

LABORATORY NOTE BOOK

MAKAUT ODD SEMESTER 2024

[MASTERS OF COMPUTER APPLICATION]

[PROGRAMMING CONCEPT WITH PYTHON LAB (MCAN191)]

[RUPAK SARKAR]

ROLL NO: REGN. NO.:

STREAM: MCA SEMESTER: I (1ST)

YEAR: 1ST Year SESSION: 2024-2026

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY

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"LIST OF ASSIGNMENT/EXPERIMENT SUBMISSION DETAILS"

SL. NO.	ASSIGNMENT / EXPERIMENT NAME	DATE OF EXPERIMENT	DATE OF SUBMISION	CHECKED BY	REMARKS (ANY DEVIATION REGARDING SUBMISSION DATES, CONTENT, FORMAT, ETC)
1.	WAP to calculate distance between two points	22/11/2024	6/12/2024		
2.	WAP to calculate area of triangle using Heron's Formula	22/11/2024	6/12/2024		
3.	WAP to print ASCII value of a character.	22/11/2024	6/12/2024		
4.	WAP to take a string in upper case and print in lower case	22/11/2024	6/12/2024		
5.	WAP to find a^b using for loop	22/11/2024	6/12/2024		
6.	WAP to print Leap Year.	22/11/2024	6/12/2024		
7.	WAP to print sum of digits.	22/11/2024	6/12/2024		
8.	WAP to find perfect number.	22/11/2024	6/12/2024		
9.	WAP to find even or odd number.	22/11/2024	6/12/2024		

OBSERVATIONS / COMMENTS ON THE OVERALL PERFORMANCE:

Signature in full with date

Faculty / Technical Assistant

Signature in full with date

Lab Examiner

Q.1. Write a program in python to calculate the distance between 2 points where x1,y1 and x2,y2:

Ans:

```
import math

x1,y1= [int(c) for c in input("Enter the points to check: ").split()]

x2,y2= [int(c) for c in input("Enter the points to check: ").split()]

v=math.sqrt((x2-x1)**2 + (y2-y1)**2)

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

Output:

```
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr  9 2024, 14:05:25) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

= RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab
22-11-24.py
Enter the points to check: 2 4
Enter the points to check: 6 8
Distance: 5.656854249492381
```

Q.2. Write a python program to calculate area of a triangle using Heron's f.

Ans:

```
import math

a,b,c= [int(c) for c in input("Enter the points to check: ").split()]

s=a+b+c/2

area=math.sqrt(s*(s-a)*(s-b)*(s-c))

print("The area of the Triangle is: ",area)
```

Output:

```
= RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab
22-11-24.py
Enter the points to check: 2 4 6
The area of the Triangle is:  30.740852297878796
```

Q.3. Write a program to print ASCII value of a character.

Ans:

```
d=input("Enter the Character: ")
print("The ASCII value of",d," is: ", ord(d))
```

Output:

```
= RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab
22-11-24.py
Enter the Character: a
The ASCII value of a  is:  97
```

Q.4. Write a python program to read a string in upper case and print it in lower case.

Ans:

```
a=input("Enter the character: ")
print(a.upper())
print(a.lower())
```

Output:

```
= RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab
22-11-24.py
Enter the character: rupak
RUPAK
rupak
```

Q.5. Write a python program to find a^b using for loop.

Ans:

```
a,b=[int(c) for c in input("Enter the numbers: ").split()]
p=1
for i in range(1,b+1):
   p=p*a
print("Value of x^y is: ",p)
```

Output:

```
========== RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab 22-11-24.py ==========
Enter the numbers: 2 3
Value of x^y is:  8
```

Q.6. Write a python program to find whether a year is leap or not.

Ans:

```
yr = int(input("Enter the year to check: "))
if (yr % 400 == 0) and (yr % 100 == 0):
    print("%d is a leap year"%yr)
elif (yr % 4 ==0) and (yr % 100 != 0):
    print("%d is a leap year"%yr)
else:
    print("%d is not a leap year"%yr)
```

Output:

```
========== RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab 22-11-24.py ==========
Enter the year to check: 2004
2004 is a leap year
```

Q.7. Write a python program to find the sum of digits of given number.

Ans:

```
n=int(input("Enter the number to check: "))
s=0
while(n!=0):
    r=n%10
    s=s+r
    n=n//10
print("Sum of the digits: ",s)
```

Output:

```
========== RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab 22-11-24.py ==========
Enter the number to check: 123
Sum of the digits:  6
```

Q.8. Write a python program to find Perfect Number.

Ans:

```
n=int(input("Enter the number: "))
s=0
for i in range(1,(n-1)):
   if(n%i==0):
      s=s+i
if(s==n):
   print("%d is a Perfect Number."%s)
else:
   print("%d is not a Perfect Number."%s)
```

Output:

```
============ RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab 22-11-24.py ===========
Enter the number: 6
6 is a Perfect Number.
```

Q.9. Write a python program to find whether a number is Even or Odd.

Ans:

```
a=int(input("Enter the number to check: "))
if(a%2==0):
   print("%d is an Even Number."%a)
else:
   print("%d is a Odd Number."%a)
```

Output:

```
============ RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab 22-11-24.py ===========
Enter the number to check: 12
12 is an Even Number.

============ RESTART: C:\Users\rupak\OneDrive\Desktop\CA'S\MCA-Utilities\PYTHON\Python Lab 22-11-24.py ===========
Enter the number to check: 11
11 is a Odd Number.
```