MEGHNAD SAHA INSTITUTE OF TECHNOLOGY

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

LABORATORY NOTE BOOK

MAKAUT EVEN SEMESTER 2025



[MASTERS OF COMPUTER APPLICATION]

[OBJECT ORIENTED PROGRAMMING LAB USING JAVA (MCAN-293)]

[RUPAK SARKAR]

ROLL NO: 14271024036 REGN. NO.: 241420510045

STREAM: MCA SEMESTER: II (2ND)

YEAR: 1ST YearSESSION: 2024-2026



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY



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“LIST OF ASSIGNMENT/EXPERIMENT SUBMISSION DETAILS”

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| --- | --- | --- | --- | --- | --- |
| **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 factorial of 12. | 17/02/2025 | 24/02/2025 |  |  |
| 2. | WAP to print Fibonacci Series. | 17/02/2025 | 24/02/2025 |  |  |
| 3. | WAP to reverse a number. | 17/02/2025 | 24/02/2025 |  |  |
| 4. | WAP to find roots of quadratic equation. | 17/02/2025 | 24/02/2025 |  |  |
| 5. | WAP to find sum of natural numbers within a given range. | 17/02/2025 | 24/02/2025 |  |  |
| 6. | WAP to find GCD of two numbers. | 17/02/2025 | 24/02/2025 |  |  |
| 7. | WAP to find prime number. | 17/02/2025 | 24/02/2025 |  |  |
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| OBSERVATIONS / COMMENTS ON THE OVERALL PERFORMANCE: |

Signature in full with date Signature in full with date

**Faculty / Technical Assistant Lab Examiner**

**Q.1. Write a program to calculate factorial of 12.**

Ans:

class fact12{

public static void main(String args[])

{

long f=1;int i;

for (i=1;i<=12;i++)

{

f=f\*i;

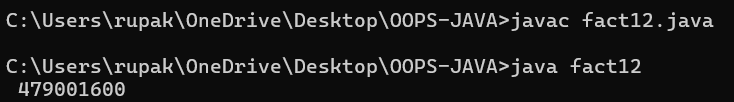
}

System.out.println(" " +f);

}

}

Output:



**Q.2. Write a program to print Fibonacci Series.**

Ans:

class fibo{

public static void main(String args[])

{

int num1=0,num2=1,num3;

System.out.println(num1+ " " +num2);

for (int i=3; i<=10; i++)

{

num3=num1+num2;

num1=num2;

num2=num3;

System.out.println(num3);

}

}

}

Output:



**Q.3. Write a program to reverse a number.**

Ans:

class rev{

public static void main(String args[])

{

int r=0, n=12;

while(n>0)

{

r=r\*10;

r=r+n%10;

n=n/10;

}

System.out.println("The Reverse of the given number is: " +r);

}

}

Output:



**Q.4. Write a program to find all roots of a quadratic equation.**

Ans:

class quadratic {

public static void main(String args[])

{

double a = 10, b = 8, c = 6;

double firstroot, secondroot;

double det = b \* b - 4 \* a \* c;

if (det > 0)

{

firstroot = (-b + Math.sqrt(det)) / (2 \* a);

secondroot = (-b - Math.sqrt(det)) / (2 \* a);

System.out.format("First Root = %.2f and Second Root = %.2f",firstroot, secondroot);

}

else if (det == 0)

{

firstroot = secondroot = -b / (2 \* a);

System.out.format("First Root = Second Root = %.2f;", firstroot);

}

else

{

double real = -b / (2 \* a);

double imaginary = Math.sqrt(-det) / (2 \* a);

System.out.printf("First Root = %.2f+%.2fi", real, imaginary);

System.out.printf("\nSecond Root = %.2f-%.2fi", real, imaginary);

}

}

}

Output:



**Q.5. Write a program to calculate the sum of natural numbers up to a given range.**

Ans:

class naturalsum {

public static void main(String[] args)

{

int n = 10;

int sum = 0;

for (int i = 1; i <= n; i++)

{

sum += i;

}

System.out.println("Sum of first " + n + " Natural Numbers : " + sum);

}

}

Output:



**Q.6. Write a program to find GCD of two numbers.**

Ans:

class gcd{

public static void main(String args[])

{

int a=6,b=9, gcd=0;

for(int i=2;i<=a;i++)

{

if(a%i==0 && b%i==0)

{

gcd=i;

}

}

System.out.println("GCD of " + a + " and " + b + " is: "+gcd);

}

}

Output:



**Q.7. Write a program to find whether a number is prime or not.**

Ans:

class prime2{

public static void main(String args[])

{

int num = 29;

int flag = 0;

for (int i = 2; i <= num/2; i++)

{

if (num % i == 0)

{

flag+=1;

break;

}

}

if (flag == 0)

{

System.out.println(num + " is a prime number.");

}

else

{

System.out.println(num + " is not a prime number.");

}

}

}

Output:

