CSA0992 - PROGRAMMING IN JAVA [Test-3]

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① Hollow block matrix :-

A Hollow block matrix is a matrix with elements only on the Border or perimeter, and the interior elements are filled with zeros.

Program for Hollow block matrix:-

```
import java.util.Scanner;
public class HollowBlockMatrix {
    public static void main (String[] args)
    {
    Scanner scanner = new Scanner (System.in);
System.out.println ("Enter the number
        of rows:");
int rows = scanner.nextInt();
System.out.println ("Enter the number of
        columns:");
int columns = scanner.nextInt();
int[][] matrix = new int [rows][columns];
for (int i=0; i<rows; i++) {
    for (int j=0; j< columns; j++) {
        if (i==0 || i == rows-1 || j==0
            || j== columns-1) {
        matrix [i][j] = 1;
        }
    }
}
for (int i=0; i<rows ; i++) {
    for (int j=0; j< columns ; j++) {
        System.out.println (matrix[i][j]
                + " ");
    }
    System.out.println();
}
scanner.close ();
}
}
```

(2) Factorial of n prime numbers:-

```
import java.util.Scanner;
public class factorialofprimes {
    public static void main (String[] args)
    {
Scanner scanner = new Scanner (System.in);
System.out.print ("Enter the value of n:");
int n = scanner.nextInt();
int count=0;
int number= 2;
while (count<n) {
    if (isprime(number)) {
        long factorial = calculatefactorial
                        (number);
        System.out.println ("factorial of
        prime" + number + " : " + factorial);
        count++;
    }
    number++;
}
scanner.close();
}
private static boolean isprime (int num){
    if (num<=1) {
        return false;
    }
    for (int i=2; i<=math.sqrt(num);
            i++) {
        if (num%i==0) {
            return false;
        }
    }
    return true;
}
private static long calculate
factorial (int num) {
long factorial =1;
for (int i= 2; i<= num; i++)
{
 factorial *= i;
}
return factorial;
}
}
```