**EXERCISE**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

class Exercise

{

static void Main(String[] args)

{

**//1.Fibonnacci series**

Console.Write("Enter the number of terms in the Fibonacci series: ");

int n = int.Parse(Console.ReadLine());

int first = 0, second = 1, next;

Console.WriteLine("Fibonacci Series:");

Console.Write(first + " ");

if (n > 1)

{

Console.Write(second + " ");

}

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

{

next = first + second;

Console.Write(next + " ");

first = second;

second = next;

}

Console.WriteLine();

**// 2. Check if number is prime**

Console.Write("Enter a number: ");

int num = int.Parse(Console.ReadLine());

bool isPrime = true;

if (num <= 1)

isPrime = false;

else

{

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

{

if (num % i == 0)

{

isPrime = false;

break;

}

}

}

if (isPrime)

{

Console.WriteLine("Prime");

}

else

{

Console.WriteLine("Not Prime");

}

Console.WriteLine();

**// 4. Palindrome check**

Console.Write("Enter a string: ");

string str = Console.ReadLine();

string rev = "";

for (int i = str.Length - 1; i >= 0; i--)

{

rev += str[i];

}

if (str == rev)

{

Console.WriteLine("Palindrome");

}

else

{

Console.WriteLine("Not Palindrome");

}

**// 5. Factorial of a number**

Console.Write("Enter a number: ");

int number = int.Parse(Console.ReadLine());

int fact = 1;

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

{

fact \*= i;

}

Console.WriteLine("Factorial: " + fact);

Console.WriteLine();

}

}

**6.Matrix add**

namespace ConsoleApp\_Hexaware

{

using System;

class MatrixAddition

{

static void Main(String[] args)

{

int[,] a = new int[3, 3];

int[,] b = new int[3, 3];

int[,] sum = new int[3, 3];

Console.WriteLine("Enter elements for Matrix A:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"A[{i},{j}]: ");

a[i, j] = int.Parse(Console.ReadLine());

}

}

Console.WriteLine("Enter elements for Matrix B:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"B[{i},{j}]: ");

b[i, j] = int.Parse(Console.ReadLine());

}

}

Console.WriteLine("Sum of matrices:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

sum[i, j] = a[i, j] + b[i, j];

Console.Write(sum[i, j] + "\t");

}

Console.WriteLine();

}

}

}

}

**7.Matrix mul**

using System;

class MatrixMultiplication

{

static void Main(String[]args)

{

int[,] a = new int[3, 3];

int[,] b = new int[3, 3];

int[,] product = new int[3, 3];

Console.WriteLine("Enter Matrix A:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"A[{i},{j}]: ");

a[i, j] = int.Parse(Console.ReadLine());

}

}

Console.WriteLine("Enter Matrix B:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"B[{i},{j}]: ");

b[i, j] = int.Parse(Console.ReadLine());

}

}

Console.WriteLine("Product of Matrices:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

product[i, j] = 0;

for (int k = 0; k < 3; k++)

{

product[i, j] += a[i, k] \* b[k, j];

}

Console.Write(product[i, j] + "\t");

}

Console.WriteLine();

}

}

}

**8. Matrix sum**

using System;

class MatrixSum

{

static void Main(String[]args)

{

int[,] matrix = new int[3, 3];

int totalSum = 0;

Console.WriteLine("Enter matrix elements:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"[{i},{j}]: ");

matrix[i, j] = int.Parse(Console.ReadLine());

totalSum += matrix[i, j];

}

}

Console.WriteLine("Total sum of all elements: " + totalSum);

}

}

**9.Matrix even odd**

using System;

class MatrixEvenOddSum

{

static void Main(String[]args)

{

int[,] matrix = new int[3, 3];

int evenSum = 0, oddSum = 0;

Console.WriteLine("Enter matrix elements:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"[{i},{j}]: ");

matrix[i, j] = int.Parse(Console.ReadLine());

if (matrix[i, j] % 2 == 0)

{

evenSum += matrix[i, j];

}

else

{

oddSum += matrix[i, j];

}

}

}

}

}

**10.Matrix diagonal**

using System;

class MatrixDiagonalSum

{

static void Main(String[]args)

{

int[,] matrix = new int[3, 3];

int diagonalSum = 0;

Console.WriteLine("Enter matrix elements:");

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

Console.Write($"[{i},{j}]: ");

matrix[i, j] = int.Parse(Console.ReadLine());

}

}

for (int i = 0; i < 3; i++)

{

diagonalSum += matrix[i, i];

}

Console.WriteLine("Sum of principal diagonal elements: " + diagonalSum);

}

}

3.Prime number from 1 to 100

using System;

class PrimeNumbers

{

static void Main()

{

Console.WriteLine("Prime numbers from 1 to 100:");

for (int i = 2; i <= 100; i++)

{

bool isPrime = true;

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

{

if (i % j == 0)

{

isPrime = false;

break;

}

}

if (isPrime)

{

Console.Write(i + " ");

}

}

Console.WriteLine();

}

}