Task No 01: Write a code which prints the following series:

2 4 8 1 6 - - - - - - - - - n

Task No 02: Write a program to calculate factorial of any given number using recursion.

Task No 03: Write a program to print Fibonacci series using recursion.

Input:

using System;

namespace CP\_Lab\_Tasks

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("\t\tMath Solution");

Console.WriteLine("1)Press 1 for Power\n2)Press 2 for Factorial\n3)Press 3 for Fibonacci Series");

int op = Convert.ToInt32(Console.ReadLine());

if (op == 1)

{

Console.WriteLine("Enter The Number:");

int num = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter Length:");

int num1 = Convert.ToInt32(Console.ReadLine());

for (int i = 1; i <= num1; i++)

{

Console.Write("{0},", Pow(num, i));

}

Console.WriteLine("\nDo you Want to Continue?");

string rep = Console.ReadLine();

if (rep == "y" || rep == "Yes" || rep == "yes" || rep == "Y")

{

Main(args);

}

}

if (op == 2)

{

Console.WriteLine("Enter Number u want Factorial:");

int fac = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("{0}!={1}", fac, Factorial(fac));

Console.WriteLine("Do you Want to Continue?");

string rep = Console.ReadLine();

if (rep == "y" || rep == "Yes" || rep == "yes" || rep == "Y")

{

Main(args);

}

}

if (op == 3)

{

Console.WriteLine("Enter the number for fibnonacci Series:");

int number = Convert.ToInt32(Console.ReadLine());

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

{

Console.Write(" {0} ", Fib(i));

}

Console.WriteLine("\nDo you Want to Continue?");

string rep = Console.ReadLine();

if (rep == "y" || rep == "Yes" || rep == "yes" || rep == "Y")

{

Main(args);

}

}

}

public static int Factorial(int num)

{

if (num <= 1)

{

return 1;

}

else

return num \* Factorial(num - 1);

}

static int Pow(int a, int b)

{

if (b == 0)

{

return 1;

}

else

{

return (a \* Pow(a, b - 1));

}

}

public static int Fib(int num)

{

if (num == 0)

{

return 0;

}

if (num == 1)

{

return 1;

}

else

{

return Fib(num - 1) + Fib(num - 2);

}

}

}

}

Output:

