Homework 4

EX1: Prime Numbers Between Two Intervals by Making User-defined Function

**#include** <stdio.h>

**void** **PrimeNumbers**(**int** num1, **int** num2);

**int** **main**() {

**unsigned** **int** num1, num2;

**printf**("Enter two numbers (intervals): ");

**fflush**(stdout);

**scanf**("%d %d", &num1, &num2);

**PrimeNumbers**(num1, num2);

**return** 0;

}

**void** **PrimeNumbers**(**int** num1, **int** num2) {

**int** flag;

**printf**("Prime numbers between %d and %d are: ", num1, num2);

**for** (**int** j = num1 + 1; j < num2; j++) {

flag = 1;

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

**if** (j % i == 0) {

flag = 0;

**break**;

}

}

**if** (flag == 1 && j != 1) {

**printf**("%d ", j);

}

}

**printf**("\n");

}

C program to Calculate Factorial of a Number Using Recursion

**#include** <stdio.h>

**unsigned** **long** **long** **Factorial**(**int** num1);

**int** **main**() {

**unsigned** **int** num1;

**printf**("Enter a positive integer: ");

**fflush**(stdout);

**scanf**("%d", &num1);

**printf**("Factorial of %d is %llu\n", num1, **Factorial**(num1));

**return** 0;

}

**unsigned** **long** **long** **Factorial**(**int** num1) {

**unsigned** **long** **long** sum = 1;

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

sum \*= i;

}

**return** sum;

}

EX3: C program to Reverse a Sentence Using Recursion

**#include** <stdio.h>

**#include** <string.h>

**void** **ReverseSentence**(**char** S[], **int** l);

**int** **main**() {

**char** string[100];

**printf**("Enter a sentence: ");

**fflush**(stdout);

**fgets**(string, **sizeof**(string), stdin);

string[**strcspn**(string, "\n")] = 0;

**ReverseSentence**(string, **strlen**(string));

**return** 0;

}

**void** **ReverseSentence**(**char** S[], **int** h) {

**char** Reverse[h + 1];

**int** i = 0;

**while** (h > 0) {

Reverse[i] = S[h - 1];

i++;

h--;

}

Reverse[i] = '\0';

**printf**("Reversed sentence: %s\n", Reverse);

}