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**De La Salle University • College of Computer Studies**

**HW1**

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Section : G01

Date of Submission : January 14, 2016

**I. Hello World**

**C++**

#include <iostream>

using namespace std;

int main() {

cout << "Hello World";

return 0;

}

**C#**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace CSC617M {

class HW1\_1 {

static void Main(string[] args) {

Console.WriteLine("Hello World!\n");

}

}

}

**Python**

print "Hello World"

**Javascript**

console.log("Hello, World!");

**Scala**

object HW1\_1 {

def main(args : Array[String]) {

println("Hello, World")

}

}

**II. Input and Print**

**C++**

#include <iostream>

#include <string>

using namespace std;

int main() {

string input = "";

do {

cout << "NOTE: Should you want to exit, type EXIT\n";

cout << "Enter input of any length: ";

cin >> input;

cout << "Your input was: " << input << "\n\n";

if(input.compare("EXIT") != 0) {

system("pause");

system("cls");

}

} while(input.compare("EXIT") != 0);

return 0;

}

**C#**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace CSC617M {

class HW1\_2 {

static void Main(string[] args) {

Console.Write("Please enter input: ");

String input = Console.ReadLine();

Console.WriteLine("Your input is \"" + input + "\"!\n");

}

}

}

**Python**

userInput = raw\_input()

print userInput

**Javascript**

var str = document.getElementById("input1").value;

console.log(str);

**Scala**

object HW1\_2 {

def main(args : Array[String]) {

print("Input: ")

var str = scala.io.StdIn.readLine()

println(str)

}

}

**III. Prime**

**C++**

#include <iostream>

using namespace std;

bool checkPrime(int integer) {

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

if(integer%i == 0)

return false;

return true;

}

int main() {

int integer = 1;

do {

cout << "NOTE: Should you want to exit, type any integer less than 2\n";

cout << "Enter a positive integer: ";

cin >> integer;

if(integer > 1) {

if(checkPrime(integer))

cout << integer << " is A PRIME integer.\n\n";

else

cout << integer << " is NOT A PRIME integer.\n\n";

system("pause");

system("cls");

}

} while(integer > 1);

return 0;

}

**C#**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace CSC617M {

class HW1\_3 {

static void Main(string[] args) {

Console.Write("Enter a positive integer: ");

int n = Int32.Parse(Console.ReadLine());

bool[] sieve = new bool[n+1];

for (int i = 2; i <= n; i++) sieve[i] = true;

for (int i = 2; i <= n; i++) {

if (sieve[i]) {

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

sieve[j] = false;

}

}

}

if (sieve[n]) Console.WriteLine("Prime!\n");

else Console.WriteLine("Not Prime!\n");

}

}

}

**Python**

number = input()

isPrime = True

for i in range(2,number):

if number % i == 0:

isPrime = False

break

if(isPrime == True):

print "Prime"

else:

print "Not Prime"

**Javascript**

var prime = document.getElementById("input2").value;

var isPrime = true;

for(var i = 2; isPrime && i <= Math.sqrt(prime); i++ ) {

if( prime % i === 0 ) {

isPrime = false;

}

i++;

}

console.log(prime + " is " + (isPrime ? "prime" : "composite."));

**Scala**

object HW1\_3 {

def main(args : Array[String]) {

print("Input: ")

var num = scala.io.StdIn.readInt()

var prime = if( isPrime(num) ) "prime" else "composite"

println( num + " is " + prime )

}

def isPrime(num : Int) : Boolean = {

var i : Int = 2

var isPrime : Boolean = true

while(isPrime && i <= math.sqrt(num)) {

if( num % i == 0 ) {

isPrime = false

}

i += 1

}

return isPrime

}

}

**IV. Function**

**C++**

#include <iostream>

#include <cmath>

using namespace std;

int main() {

double value = 0;

do {

cout << "NOTE: Should you want to exit, type any value\n";

cout << " less than or equal to 0\n";

cout << "Enter a positive value: ";

cin >> value;

if(value > 0) {

double answer = value \* value + (log10(value)-sin(value))/sqrt(value);

cout << "The result is " << answer << "\n\n";

system("pause");

system("cls");

}

} while(value > 0);

return 0;

}

**C#**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace CSC617M {

class HW1\_4 {

static void Main(string[] args) {

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

double x = double.Parse(Console.ReadLine());

double ans = x\*x + (Math.Log(x) - Math.Sin(x))/Math.Sqrt(x);

Console.WriteLine("Answer is " + ans + "!\n");

}

}

}

**Python**

import math

number = input()

number = number \*\* 2 + (math.log(number) - math.sin(number)) / math.sqrt(number)

print number

**Javascript**

var x = document.getElementById("input3").value;

console.log((x \* x + (Math.log(x)/Math.LN10 - Math.sin(x))/Math.sqrt(x)));

**Scala**

object HW1\_4 {

def main(args : Array[String]) {

print("Input: ")

var x = scala.io.StdIn.readDouble()

println(f(x))

}

def f(x : Double) : Double = {

return x \* x + (math.log10(x) - math.sin(x)) / math.sqrt(x)

}

}