

SCHOOL OF MECHANICAL & MANUFACTURING ENGINERRING

NUST

Department of Mechanical Engineering

CS-114 – Fundamentals of Programming

LAB 1

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**Section**: B

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ASSIGNMENT 1 (HOME TASK)

TASK 1:

#include <iostream>

using namespace std;

int main(){

cout<<"CS 114 LAB Home Task 1"<<endl;

int n, f; //n is number, f is factorial

n=6;

f=n\*(n-1)\*(n-2)\*(n-3)\*(n-4)\*(n-5);

cout<<"The factorial of 6 is:"<<f<<endl;

return 0;

}

TASK 3:

#include <iostream>

using namespace std;

//Task 3, to take length from user in centimeters and convert it into meters and kilometers

int main(){

cout<<"CS 114 LAB HOME TASK 3"<<endl;

float cm, m, k ; //cm=centimeter, m=meter, k=kilometer

cout<<"Enter the length in centimeter"<<endl;

cin>>cm;

m=(cm/100); //converting length into meters

k=(cm/10000); //converting length into kilometers

cout<<"The length in meters is:"<<m<<endl;

cout<<"The length in kilometers is:"<<k<<endl;

return 0;

}

TASK 2:

#include <iostream>

#include <math.h>

using namespace std;

//Task 2, to calculate the distance between two points

int main(){

cout<<"CS 114 LAB HOME TASK 2"<<endl;

int x1, x2, y1, y2;

float dis; //dis=distance

cout<<"Enter the x coordinate of first point, x1"<<endl;

cin>>x1;

cout<<"Enter the y coordinate of first point, y1"<<endl;

cin>>y1;

cout<<"Enter the x coordinate of second point, x2"<<endl;

cin>>x2;

cout<<"Enter the y coordinate of second point, y2"<<endl;

cin>>y2;

dis=sqrt(pow((x2-x1),2)+pow((y2-y1),2));

cout<<"The distance between the two points provided is:"<<dis<<endl;

return 0;

}

TASK 4:

#include <iostream>

#include <math.h>

using namespace std;

int main(){

cout<<"CS 114 LAB HOME TASK 4 "<<endl;

int a, b, c;

cout<<"Enter the value of a"<<endl;

cin>>a;

cout<<"Enter the value of b"<<endl;

cin>>b;

c=(pow(a,2)+(2\*a\*b)+pow(b,2));

cout<<"The Result is:"<<c<<endl;

return 0;

}