**Problem solving and practice: C++ Assignment:2**

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**Problem1**

#pragma warning(disable:4996)

#include<iostream>

#include<string>

#include<cstring>

#include<cstdlib>

#include<ctime>

using namespace std;

class largest { //class definition

    int n1, n2, n3;

public:

//method declare

    void input();

    int max();

    void display();

};

//inline function definition

inline void largest::input() {

    cout << "Enter three number: ";

    cin >> n1 >> n2 >> n3;

}

inline int largest::max() {

    int max = n1;

    //max

    if (max < n2){

        if (n2 > n3){

            max = n2;

        }

        else{

            max = n3;

        }

    }

    else{

        if (max < n3){

            max = n3;

        }

    }

    return max; //return value

}

inline void largest::display() {

    cout << "Max number: " << max() << endl; //output message

}

int main() {

    largest big; //object as big

//function call

    big.input(); //input value

    big.max(); //max

    big.display(); //output value

    return 0;

}

The method was declared by defining the target class, and inline functions were defined. Input() is designed to receive three numbers, and max is designed to compare the three numbers and return the largest number.  
The main function declares the target class object to invoke the function.

**Problem1 output screen**

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**Problem2**

#pragma warning(disable:4996)

#include<iostream>

#include<string>

#include<cstring>

#include<cstdlib>

#include<ctime>

using namespace std;

class calc { //class calc definition

    int n1, n2;

public:

    //method declare

    void get();

    void sum();

    void difference();

    void product();

    void division();

};

//inline function definition

inline void calc::get() {

    cout << "Enter first value: ";

    cin >> n1;

    cout << "Enter second value: ";

    cin >> n2;

}

inline void calc::sum() {

    cout << "Addition of two numbers: " << n1 + n2 << endl; //Add operation

}

inline void calc::difference() {

    cout << "Difference of two numbers: " << n1 - n2 << endl;

    //Sub operation

}

inline void calc::product() {

    cout << "Product of two numbers: " << n1 \* n2 << endl;

    //Mutiply operation

}

inline void calc::division() {

    cout << "Division of two numbers: " << n1 / n2 << endl;

    //Division operation

}

int main() {

    calc obj1; //object as obj1

    //function call

    obj1.get();

    obj1.sum();

    obj1.difference();

    obj1.product();

    obj1.division();

    return 0;

}

I defined a calc class and have declared a method.  
The get() function was declared to receive two numbers, and the sum(), difference(), product(), and division() functions were designed to output the two numbers received by +,-,\*,/ calculating.  
The main is designed to declare objects in the calc class to call and output each function.

**Problem 2 output screen**

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**Problem3**

#pragma warning(disable:4996)

#include<iostream>

#include<string>

#include<cstring>

#include<cstdlib>

#include<ctime>

using namespace std;

class largest {

    int num1, num2, num3;

public:

    largest(int x, int y, int z) {

        num1 = x;

        num2 = y;

        num3 = z;

    }

    int max();

    void display();

    void input();

};

inline void largest::input() { //input value

    cout << "Enter three number:";

    cin >> num1 >> num2 >> num3;

}

inline int largest::max() {

    //max value

    int max = num1;

    if (max < num2) {

        if (num2 > num3) {

            max = num2;

        }

        else {

            max = num3;

        }

    }

    else {

        if (max < num3) {

            max = num3;

        }

    }

    return max; //return value

}

inline void largest::display() {

    int large = max();

    cout << "Max number: " << large << endl; //output message

}

int main() {

    largest big(10, 30, 300); //parametrized contructor 3 arguments

    //function call

    big.display(); //(10,30, 300) argument output

    big.input(); //input value

    big.max(); // max

    big.display(); // Output the value inputed

    return 0;

}

The method was declared by defining the target class. Designed by declaring a constructor that receives three arguments within the class.  
The input() function is designed to receive three numbers, and max() compares the three numbers received and returns the largest number. display() causes the returned large number to be output.  
The main declared object of the target class with arguments 10, 30, 300.  
The function is called to output the largest value for 10, 30, 300, and the largest number by receiving the three numbers below.

**Problem 3 output screen**

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**Problem4**

#pragma warning(disable:4996)

#include<iostream>

#include<string>

#include<cstring>

#include<cstdlib>

#include<ctime>

using namespace std;

class Arguments\_Print { //class Arguments\_Print definition

    int a, b;

public:

    //default constructor

    Arguments\_Print();

    //parametrized constructor single argument

    Arguments\_Print(int num);

    Arguments\_Print(int x, int y);

    void display();

};

//default constructor

Arguments\_Print::Arguments\_Print() {

    a = 0;

    b = 0;

}

//parametrized constructor single argument

Arguments\_Print::Arguments\_Print(int num) {

    a = b = num;

}

//parametrized constructor single argument

Arguments\_Print::Arguments\_Print(int x, int y) {

    a = x;

    b = y;

}

void Arguments\_Print::display() {

    cout << "Value of A = " << a << endl;

    cout << "Value of B = " << b << endl;

    cout << endl;

}

int main() {

    int a, b;

    cout << "Input value: ";

    cin >> a >> b; //input value

    Arguments\_Print ap; //default argument

    Arguments\_Print ap1(a); //1 argument

    Arguments\_Print ap2(a, b); //2 argument

    //output message

    ap.display();

    ap1.display();

    ap2.display();

    return 0;

}

I defined the Argument\_Print class, declared a constructor with two or one default and a display() method.  
The default constructor has initialized to zero.  
The constructor with 1 argument has the same value as a = b = num.  
The constructors with two instruments put values a = x and b = y.  
  
The main function is designed to output two values and an object from Argument\_Print by declaring each class constructor.

**Problem 4 output screen**

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**Problem5**

**Main.cpp**

//That stores the application, i.e. the main() method for the application.

#pragma warning(disable:4996)

#include<iostream>

#include<string>

#include<cstring>

#include<cstdlib>

#include<ctime>

#include "Class.h" //Declare header files

using namespace std;

int main() {

    largest big; //object in class.h as big

    //function call

    big.input();

    big.max();

    big.display();

    return 0;

}

**Class.cpp**

//That stores the method definitions for that class.

#pragma warning(disable:4996)

#include<iostream>

#include<string>

#include<cstring>

#include<cstdlib>

#include<ctime>

#include "Class.h" //Declare header files

using namespace std;

void largest::input() {

    cout << "Enter three number: ";

    cin >> n1 >> n2 >> n3; //input value

}

int largest::max() {

    //max

    int max = n1;

    if (max < n2) {

        if (n2 > n3) {

            max = n2;

        }

        else {

            max = n3;

        }

    }

    else {

        if (max < n3) {

            max = n3;

        }

    }

    return max;

}

void largest::display() {

    cout << "Max number: " << max() << endl; //output message

}

**Class.h**

//That stores the class declaration and definition.

#pragma once

#ifndef CLASS\_H //Conditional processing

#define CLASS\_H

class largest {

    int n1, n2, n3;

public:

    //method declare

    void input();

    int max();

    void display();

};

#endif

A class file was created and declared to main.cpp as #include "Class.h" to declare object big of the largest class. The function is called below.  
Class.cpp similarly defined an inline function of the largest class by declaring #include "Class.h". (Inline function is the same as Problem 1)  
Class.h defined the target class to declare each method and conditioned it with #ifndef and #endif.

Problem 5 output screen

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