Software Development Lab – II

Assignment Sheet

Week 9

Q1. Predict the output of following program.

template <typename T>

void abcd(const T&x)

{ static int count = 0;

cout << "x = " << x << " count = " << count << endl;

++count;

return;

}

int main()

{

abcd<int> (1);

cout << endl;

abcd<int>(1);

cout << endl;

abcd<double>(1.1);

cout << endl;

return 0;

}

x = 1 count = 0

x = 1 count = 1

x = 1.1 count = 0

Q2. Predict the output of the following program.

template <class T>

class Test

{ private:

T val;

public:

static int count;

Test() { count++; }

};

template<class T>

int Test<T>::count = 0;

int main()

{

Test<int> a;

Test<int> b;

Test<double> c;

cout << Test<int>::count << endl;

cout << Test<double>::count << endl;

return 0;

}

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Q3. Create a template class calculator to perform addition, subtraction, multiplication and division of

two numbers. Show the results for different datatypes.

Q4. Write templates for the two functions, namely minimum and maximum. Minimum

function should accept two arguments and return the value of the arguments that is the lesser

among the two. Maximum function should accept two arguments and return the value of the

arguments that is the greater among the two values. Design a simple driver program that

demonstrates the templates with various data types.

Q5. Create your own template class MyVector with data members and member functions such

that the size(), push\_back() and pop\_back() functionalities of Vector can also be performed by

MyVector.

Q6. Implement the following problem using vector STL in c++.

Consider two arrays of similar type, having different numbers of elements. Take the array

values from user till a negative value for both the arrays. Insert those elements of second array

into first array which are not present in the first array. Also display the first array after insertion

in sorted form.