

Student Name, Lastname:

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(30)1- Why do we use virtual base classes? Explain.

(40)2- Write the program code for overloading the operator “--” for class myclass which is declared below. Overload the -- operator for both postfix decrement and prefix decrement. (note: you must decrement every data member of myclass class) declerations of the prefix and postfix decrement operators are given below.

```
class myclass {private:double a,b,c,d; public://constructor
myclass (double u,double x, double v,double y) {a=u;b=x;c=v;d=y;} //constructor
myclass operator--();// declaration of prefix decrement
myclass operator--(int notused);// declaration of postfix dec.
}
```

(40)3-Write a function template (generic function) to add two vector for basic data types such as float,double,long int, int, and unsigned int. The general form of a template function definition is given below:

```
template <class type1, class type2,class type3,..>
return-type function-name(parameter list) {body of function}
```

You can use the following declaration to add two vectors

```
(template <class X> void sum_vector(X &a, X &b, X &c ,int v_size)
{ You must fill this part }
```

Here a and b are the vectors to be added. c is the vector to store the result, and v_size is the size of vectors. Write only definition of the generic function. Do not write anything for the “ int main () {}” program.