

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

Paper Pattern

MCQS 40 each 1 mark
Short 4 each 2 marks
Short 4 each 3 marks
long 4 each 5 marks

Question No : 1 of 52	Marks: 1 (Budgeted Time 1 Min)
Which of the following is the best approach to implement generic algorithms with minimum number of coding lines?	
Answer (Please select your correct option)	WWW.VirtualAcademyLive.com
<input checked="" type="radio"/> Templates	<p>Made by: Waqar Siddhu</p>
<input type="radio"/> Overloading	
<input type="radio"/> Overriding	
<input type="radio"/> Friend function/class	
Question No : 2 of 52	Marks: 1 (Budgeted Time 1 Min)
Identify the correct way of declaring an object of user defined template class A for char type members?	
Answer (Please select your correct option)	WWW.VirtualAcademyLive.com
<input checked="" type="radio"/> A< char > obj;	<p>Made by: Waqar Siddhu</p>
<input type="radio"/> <char>A obj;	
<input type="radio"/> A obj<char>;	
<input type="radio"/> Obj <char> A;	

Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

In order to define a class template, the first line of definition must be:

Answer (Please select your correct option)

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☐ template <typename T>

☐ typename <template T>

☐ Template Class <ClassName>

☐ Class <Template T>

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Question No : 4 of 52

Marks: 1 (Budgeted Time 1 Min)

A copy constructor is invoked when

Answer (Please select your correct option)

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☐ a function do not returns by value.

☐ an argument is passed by value.

☐ a function returns by reference.

☐ an argument is passed by reference.

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Question No : 5 of 52

Marks: 1 (Budgeted Time 1 Min)

Considering the resolution order in which compiler search for functions in a program, the first priority is given to,

Answer (Please select your correct option)

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☐ general template

☐ partial specialization

☐ complete specialization

☐ ordinary function

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Question No : 6 of 52

Marks: 1 (Budgeted Time 1 Min)

Which one of the following features of OOP is used to derive a class from another?

Answer (Please select your correct option)

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☐ Encapsulation

☐ Polymorphism

☐ Data hiding

☒ Inheritance

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Question No : 7 of 52

Marks: 1 (Budgeted Time 1 Min)

Inheritance is a way to

Answer (Please select your correct option)

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☐ organize data.

☐ pass arguments to objects of classes.

☒ add features to existing classes without rewriting them.

☐ improve data-hiding and encapsulation.

Made by: Waqar Siddhu

Question No : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

In _____, a base class can be replaced by its derived class,

Answer (Please select your correct option)

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☒ Sub-typing

☐ Super-typing

☐ Multiple-typing

☐ Restricted-typing

Made by: Waqar Siddhu

Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is the way to extract common behaviour and attributes from the given classes and make a separate class of those common behaviours and attributes?

Answer (Please select your correct option)

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☒ Generalization

☐ Sub-typing

☐ Specialization

☐ Extension

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Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

Which is true about specialization in case of inheritance?

Answer (Please select your correct option)

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☒ In specialization derived class has some restricted behavior of its own. i think

☐ In specialization derived class shows some extended behavior of its parent.

☐ In specialization derived class should be abstract.

☐ In specialization, derived class is behaviourally compatible with base class

Made by: Waqar Siddhu

Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

The function that is automatically called when an object of a class is created is named as _____.

Answer (Please select your correct option)

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☒ Constructor

☐ Destructor

☐ Member Functions

☐ Inline Functions

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Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is used to free the memory space allocated as a result of object declaration?

Answer (Please select your correct option)

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☐ Constructor

☐ New operator

☒ Destructor

☐ Accessor Function

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Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

A class can be identified from a statement by -----

Answer (Please select your correct option)

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☒ Noun

☐ Pronoun

☐ Verb

☐ Adverb

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Question No : 14 of 52

Marks: 1 (Budgeted Time 1 Min)

Public methods of base class can be _____ accessed in the derived class.

Answer (Please select your correct option)

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☒ Directly

☐ Indirectly

☐ Consecutively

☐ Simultaneously

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Question No : 15 of 52

Marks: 1 (Budgeted Time 1 Min)

The type that is used to declare a reference or pointer is called its _____.

Answer (Please select your correct option)

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☐ default type

☐ static type

☐ abstract type

☐ reference type

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Question No : 16 of 52

Marks: 1 (Budgeted Time 1 Min)

The operations of copy constructor must define by:

Answer (Please select your correct option)

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☐ System

☐ User

☐ System and User

☐ Administrator

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Question No : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

All the _____ members of base class can be accessed from the derived class.

Answer (Please select your correct option)

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☐ Private

☐ Protected

☐ Non private

☒ Public

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Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

A non virtual member function in base class is overridden in derived class; if that non virtual function is called through base class pointer to derived class object, then the _____ version is used.

Answer (Please select your correct option)

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☐ Derived class

☐ Abstract class

☒ Base class

☐ Concrete class

Made by: Waqar Siddhu

Question No : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

Multiple inheritance can be of type

Answer (Please select your correct option)

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☐ Public, Private

☐ Private, Protected

☐ Protected, Public

☒ Public, Protected, Private

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Question No : 20 of 52

Marks: 1 (Budgeted Time 1 Min)

A template argument is preceded by the keyword _____.

Answer (Please select your correct option)

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☐ vector, class

☐ typename, class

☒ template, class

☐ type, class

Made by: Waqar Siddhu

Question No : 21 of 52

Marks: 1 (Budgeted Time 1 Min)

Consider the following statements;

- 1) `int iArray[5];`
- 2) `int *pArr = iArray;`

Answer (Please select your correct option)

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☐ Error in first statement

☐ Error in second statement

☐ Error in both statements

☒ No error in both statements

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Question No : 22 of 52

Marks: 1 (Budgeted Time 1 Min)

Which one of the following is example of complete specialization,

Answer (Please select your correct option)

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☐ `template <typename T> class Vector ();`

☐ `template <typename T> class Vector<T*> ();`

☐ `template<> class Vector <char*> ();`

☒ `template <class T> class Vector< T *> ();`

Made by: Waqar Siddhu

Question No : 23 of 52

Marks: 1 (Budgeted Time 1 Min)

Non Template Friend functions of a class are friends of _____ instance/s of that class.

Answer (Please select your correct option)

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☐ One

☐ Two

☐ All instances of one date type

☒ All

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Question No : 24 of 52

Marks: 1 (Budgeted Time 1 Min)

Template functions use _____ than ordinary functions.

Answer (Please select your correct option)

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☐ More Memory

☒ Less Memory

☐ Same Memory

☐ Different Memory

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Question No : 25 of 52

Marks: 1 (Budgeted Time 1 Min)

By default the vector data items are initialized to _____.

Answer (Please select your correct option)

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☒ 0

☐ 1

☐ 2

☐ 4

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Question No : 26 of 52

Marks: 1 (Budgeted Time 1 Min)

Two important STL associative containers are _____ and _____.

Answer (Please select your correct option)

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☒ set,map

☐ sequence,mapping

☐ setmet,multipule

☐ sit,mat

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Question No : 27 of 52

Marks: 1 (Budgeted Time 1 Min)

A vector is an appropriate container if you

Answer (Please select your correct option)

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☐

want to insert lots of new elements at arbitrary locations in the vector.

☐

want to insert new elements, but always at the front of the container.

☐

are given an index number in order to quickly access the corresponding element.

☐

are given an element key value in order to quickly access the corresponding element.

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Question No : 28 of 52

Marks: 1 (Budgeted Time 1 Min)

An STL container can not be used to:

Answer (Please select your correct option)

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☐

Hold objects of class employee.

☐

Store elements in a way that makes them quickly accessible.

☐

Compile c++ programs.

☐

Organize the way objects are stored in memory

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Question No : 29 of 52

Marks: 1 (Budgeted Time 1 Min)

The copy() algorithm returns an iterator to

Answer (Please select your correct option)

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☐

the last element copied from.

☐

the last element copied to.

☐

the element one past the last element copied from.

☐

the element one past the last element copied to.

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Question No : 30 of 52

Marks: 1 (Budgeted Time 1 Min)

_____ follow try block to catch the thrown object.

Answer (Please select your correct option)

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☐ Catch block

☐ Throw block

☐ Main block

☐ Try block

Made by: Waqar Siddhu

Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

We can initialize the constant data members of a class without using the assignment operator through:

Answer (Please select your correct option)

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☐ Const data members

☐ Static data members

☒ Constructor

☐ Member initialization list

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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

In order to reuse the characteristics of more than one parent class, we must use:

Answer (Please select your correct option)

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☐ Inheritance

☐ Protected inheritance

☒ Multiple inheritance

☐ Private inheritance

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Question No : 33 of 52

Marks: 1 (Budgeted Time 1 Min)

A virtual function is a function that is expected to redefine in _____ class.

Answer (Please select your correct option)

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☒ Base class

☐ Parent class

☐ Super class

☒ Derived class

in my view

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Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

In abnormal termination our program is terminated _____.

Answer (Please select your correct option)

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☐ Manually

☐ Normally

☒ Abnormally

☐ Routinely

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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

Default constructor either has no _____ or parameters with _____ values.

Answer (Please select your correct option)

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☐ Parameters, temporary

☐ Parameters, null

☒ Parameters, default

☐ Parameters, zero

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Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

Which is not the Advantage of inheritance?

Answer (Please select your correct option)

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- ☐ facilitating class libraries.
- ☐ avoiding the rewriting of code.
- ☐ providing a useful conceptual framework.
- ☒ providing class growth through natural selection.

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Question No : 37 of 52

Marks: 1 (Budgeted Time 1 Min)

A pointer to a base class can point to object of a _____ class.

Answer (Please select your correct option)

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- ☐ Base
- ☒ Derived
- ☐ Abstract
- ☐ Virtual

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Question No : 38 of 52

Marks: 1 (Budgeted Time 1 Min)

A template provides a convenient way to make a family of

Answer (Please select your correct option)

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- ☐ variables and data members
- ☒ functions and classes
- ☐ classes and exceptions
- ☐ programs and algorithms

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Question No : 39 of 52

Marks: 1 (Budgeted Time 1 Min)

The specialization pattern <T*> after the name says that this specialization is to be used for every,

Answer (Please select your correct option)

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☐ data type

☐ meta type

☐ virtual type

☐ pointer type

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Question No : 40 of 52

Marks: 1 (Budgeted Time 1 Min)

Each try block can have _____ no. of catch blocks.

Answer (Please select your correct option)

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☐ 2

☐ 3

☐ As many as necessary.

☐ 1

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Question No : 41 of 52

Marks: 2 (Budgeted Time 4 Min)

How can we set the default values for NON type parameters?

Answer (Please [click here](#) to Add Answer)

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Made by: Waqar Siddhu

Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

Can we achieve Information Hiding by separating Interface and Implementation of an object? Justify your answer.

Answer ([Please click here to Add Answer](#))

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Question No : 43 of 52

Marks: 2 (Budgeted Time 4 Min)

In which situations we should use **Operator Overloading** and in which situations we should use **Templates**.

Answer ([Please click here to Add Answer](#))

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Question No : 44 of 52

Marks: 2 (Budgeted Time 4 Min)

Describe two key components of STL?

Answer ([Please click here to Add Answer](#))

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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

If we declare a function as friend of a template class will it be a friend for a particular data type or for all data types of that class.

Answer ([Please click here to Add Answer](#))

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Question No : 46 of 52

Marks: 3 (Budgeted Time 6 Min)

Tell the two ways to indicate the compiler that we are overloading post increment operator.

Answer ([Please click here to Add Answer](#))

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Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

In which situation do we need to implement virtual inheritance? Explain with the help of an example.

Answer ([Please click here to Add Answer](#))

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Question No : 48 of 52

Marks: 3 (Budgeted Time 6 Min)

Give the general syntax of nested try catch blocks?

Answer ([Please click here to Add Answer](#))

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Question No : 49 of 52

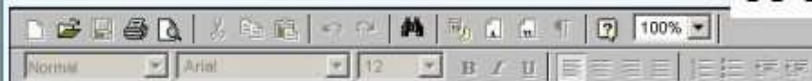
Marks: 5 (Budgeted Time 10 Min)

The code given below has one template function as a friend of a template class,
1. You have to identify any error/s in this code and describe the reason for error/s.
2. Give the correct code after removing the error/s.

```
template<typename U>  
void Test(U);
```

Answer ([Please click here to Add Answer](#))

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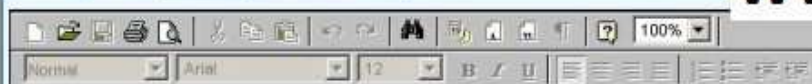
Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

```
template< class T >  
  
class B {  
    int data;  
    public:  
    friend void Test<>( T );
```

Answer ([Please click here to Add Answer](#))

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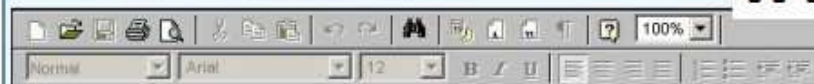
Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

```
template<typename U>
void Test(U u){
    B < int> b1;
    b1.data = 7;
}
int main(int argc, char *argv[])
```

Answer ([Please click here to Add Answer](#))

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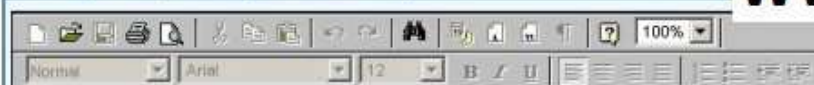
Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

```
char i;
Test(i);
system("PAUSE");
return 0;
}
```

Answer ([Please click here to Add Answer](#))

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Question No : 50 of 52

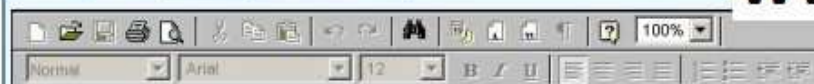
Marks: 5 (Budgeted Time 10 Min)

Consider the following code segment:

```
class Complex{
private:
double real, img;
public:
```

Answer ([Please click here to Add Answer](#))

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Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

```
// declaration of overloaded subtraction operator  
  
// declaration of overloaded multiplication operator  
  
);
```

Answer ([Please click here to Add Answer](#))

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Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

```
// Implementation of overloaded subtraction operator  
  
// Implementation of overloaded multiplication operator  
  
Give the declarations and implementations of each overloaded operator.
```

Answer ([Please click here to Add Answer](#))

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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

Consider the following code segment:

```
class Alphabets {  
public:  
virtual void write()=0;  
};
```

Answer ([Please click here to Add Answer](#))

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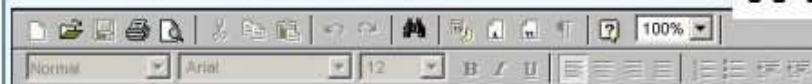
Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

```
class XYZ : public Alphabets {  
public:  
void write(){  
cout << "I am in XYZ class!"<<endl;  
}  
};
```

Answer ([Please click here to Add Answer](#))

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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

```
class Shape {  
public:  
virtual void draw()=0;  
};  
  
class Triangle: public Shape{
```

Answer ([Please click here to Add Answer](#))

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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

```
virtual void draw(),  
};  
  
class Numbers{  
public:  
virtual void write()=0;
```

Answer ([Please click here to Add Answer](#))

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