



Virtual University

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CS304
Solved Final Terms Papers

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2017

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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)

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- ☒ Templates
- ☐ Overloading
- ☐ Overriding
- ☐ Friend function/class

Made by: Waqar Siddhu

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)

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- ☒ A< char > obj;
- ☐ <char>A obj;
- ☐ A obj<char>;
- ☐ Obj <char> A;

Made by: Waqar Siddhu

Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

Assume a class Derv that is privately derived from class Base. An object of class Derv located in main() can access

Answer (Please select your correct option)

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☒ public members of Derv.

☐ protected members of Derv.

☐ private members of Derv.

☐ protected members of Base.

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Question No : 4 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 : 5 of 52

Marks: 1 (Budgeted Time 1 Min)

A class template _____

Answer (Please select your correct option)

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☒ Facilitates reuse of class

☐ Does not facilitate reuse of class

☐ Does not support generic methods

☐ Does not support static members

Made by: Waqar Siddhu

Question No : 6 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 : 7 of 52

Marks: 1 (Budgeted Time 1 Min)

Suppose we have two derived classes from a single class, can we write a method with same name in both these derived classes ? Choose the best option.

Answer (Please select your correct option)

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☐ No

☒ Only if the two classes have the same name

☐ Only if the main program does not declare both kinds

☐ Yes

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Question No : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is incorrect line regarding function template?

Answer (Please select your correct option)

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☐ template<class T>

☐ template <typename U>

☒ Class<template T>

☐ template < class T, class U>

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Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following acts as an interface of the class?

Answer (Please select your correct option)

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☐ Private member functions

☐ Public data members

☒ Public member functions

☐ Private data members

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Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

A virtual member function `ding()` in base and derived class, and pointer `p` to base class object contains the address of derived class object, then the statement `p->ding()` will execute `ding()` member function in _____ class.

Answer (Please select your correct option)

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☐ Base

☒ Derived

☐ Virtual

☐ Implemented

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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

Encapsulation is a feature of Object Oriented Programming which means,

Answer (Please select your correct option)

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☐ Keep data separated from code

☒ Keep data and code in a single place

not sure

☐ Keep data separated from code and also keep data and code in a single place

☐ Reusing code by creating new classes from previously created classes

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Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

Abstract class has _____.

Answer (Please select your correct option)

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☒ Zero Instances

☐ One Instance

☐ Two Instances

☐ Many Instances

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Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is an example of accessor function?

Answer (Please select your correct option)

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☐ Constructors for intilizing objects

☒ Getters for getting data member values

☐ Destructors to free the memory space

☐ Copy constructor to create a new object from existing object

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Question No : 14 of 52

Marks: 1 (Budgeted Time 1 Min)

A **friend** function can access a class's private data without being a _____.

Answer (Please select your correct option)

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☐ Static member of the class

☐ None member of the class

☒ Member of the class

☐ Constant member of the class

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Question No : 15 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 : 16 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 : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

If a class D has been derived using protected inheritance from class B (If B is a protected base and D is derived class) then public and protected members of B ----- accessed by member functions and friends of class D and classes derived from D.

Answer (Please select your correct option)

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☒ can be

☐ cannot be

☐ does restrict to be.

☐ never

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Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

When a virtual function is called by referencing a specific object by name and using the dot member selection operator (e.g., squareObject.draw()), the reference is resolved at _____.

Answer (Please select your correct option)

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☒ Run time

☐ Compile time

☐ Processing time

☐ Execution time

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Question No : 19 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

idea

☐ type, class

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Question No : 20 of 52

Marks: 1 (Budgeted Time 1 Min)

When we write a class template the first line must be:

Answer (Please select your correct option)

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☐ template < class class_name >

☐ template < class_name data_type >

☒ template < class T >

☐ class template < class_name >

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Question No : 21 of 52

Marks: 1 (Budgeted Time 1 Min)

Consider the following definition

```
template < class T > class Xyz ( ... );
```

Answer (Please select your correct option)

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☐ it defines a class template for integers only

☒ it defines a class template for any data type

☐ class templates are not defined in this way

☐ it defines template functions

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Question No : 22 of 52

Marks: 1 (Budgeted Time 1 Min)

```
template<> class Vector<void*>(  
    void** p;  
    //...  
    void*& operator[] ((int i);  
);
```

Answer (Please select your correct option)

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☐ This specialization can be used as the common implementation for all Vectors of pointers.

☒ This specialization can then be used as the implementation for all types of classes.

☐ This specialization can then be used for double type pointers.

☐ This specialization should be used for Vectors of int types.

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Question No : 23 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is NOT an advantage of generic programming?

Answer (Please select your correct option)

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☐ Reusability

☐ Writability

☐ Maintainability

☒ Efficient memory usage

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Question No : 24 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 : 25 of 52

Marks: 1 (Budgeted Time 1 Min)

Vectors contain contiguous elements stored as a[an] _____.

Answer (Please select your correct option)

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variable

☐

array

☒

function

☐

datatype

☐

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Question No : 26 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 : 27 of 52

Marks: 1 (Budgeted Time 1 Min)

An STL algorithm is

Answer (Please select your correct option)

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☒ A standalone function that operates on containers.

☐ A link between member functions and containers.

☐ A friend function of appropriate container classes.

☐ A member function of appropriate container classes.

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Question No : 28 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 : 29 of 52

Marks: 1 (Budgeted Time 1 Min)

Vector V with default constructor is defined, and another vector W is defined with one argument constructor with size 11, and insert 3 elements into each of these vectors with push_back(), then the size() member function will return ___ for V and ___ for W.

Answer (Please select your correct option)

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☐ 11 for v and 3 for w.

☐ 0 for v and 0 for w.

☐ 0 for v and 3 for w.

☒ 3 for v and 11 for w.

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Question No : 30 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 : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

The find() algorithm

Answer (Please select your correct option)

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- ☐ Finds matching sequences of elements in two containers.
- ☐ Finds a container that matches a specified container.
- ☒ Takes iterators as its first two arguments.
- ☐ Takes container elements as its first two arguments.

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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

Objects having identical characteristics belong to,

Answer (Please select your correct option)

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- ☒ Same class
- ☐ Two different classes
- ☐ Any number of different classes
- ☐ Objects can not have identical characteristics

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Question No : 33 of 52

Marks: 1 (Budgeted Time 1 Min)

A static member function can be called, even when an object is not _____.

Answer (Please select your correct option)

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☐ Execute

☐ Define

☒ Instantiated

☐ Mention

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Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

The following overloaded operator takes no argument.

Answer (Please select your correct option)

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☐ /

☐ -

☐ +

☒ ++

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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

How many objects for a class can be constructed in an application?

Answer (Please select your correct option)

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☐ Only one per constructor.

☒ As many as the application asks for.

☐ Only one per class.

☐ One object per variable.

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Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

Suppose you create an uninitialized vector as follows:

```
vector<int> evec;  
After adding the statment,  
evec.push_back(21);  
what will happen?
```

Answer (Please select your correct option)

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- ☐ It will add an element to the start of evec and will initialize it with 21.
- ☐ It will add an element to the center of evec and will reinitialize it with 21.
- ☐ It will delete an element to the end (the back) of evec and will reinitialize it with 21.
- ☒ It will add an element to the end (the back) of evec and initialize it with 21.

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Question No : 37 of 52

Marks: 1 (Budgeted Time 1 Min)

A static function

Answer (Please select your correct option)

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- ☐ should be called when an object is destroyed.
- ☐ is closely connected to an individual object of a class.
- ☒ can be called using the class name followed by function name.
- ☐ is used when a dummy object must be created.

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Question No : 38 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 : 39 of 52

Marks: 1 (Budgeted Time 1 Min)

```
class DocElement
{
public:
    virtual void Print() { cout << "Generic element"; }
};
class Heading : public DocElement
```

Answer (Please select your correct option)

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- ☐ Generic element
- ☐ Heading element
- ☒ Paragraph element
- ☐ Nothing will be printed.

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Question No : 40 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 : 41 of 52

Marks: 2 (Budgeted Time 4 Min)

Sort the following data in the order in which compiler searches a function?
Complete Specialization, Generic Template, Partial Specialization, Ordinary Function.

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

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Normal Arial 12 B I U

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Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

Friend functions minimize "Encapsulation", What is your opinion?

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

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Question No : 43 of 52

Marks: 2 (Budgeted Time 4 Min)

State any two reasons why virtual methods can not be static?

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

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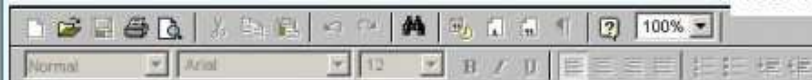
Question No : 44 of 52

Marks: 2 (Budgeted Time 4 Min)

Give two advantages that Iterators provide over Cursors.

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

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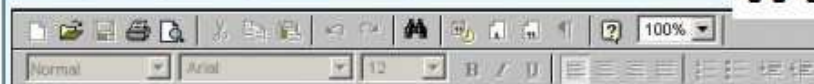
Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

Write a template function that takes one template parameter and always returns value that is always equal to double of its parameter value (parameter * 2).

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

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Question No : 46 of 52

Marks: 3 (Budgeted Time 6 Min)

Describe three properties necessary for a container to implement Generic Algorithms.

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

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Question No : 47 of 52

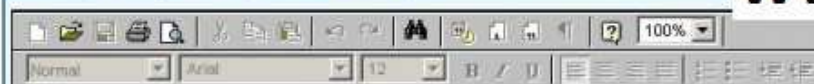
Marks: 3 (Budgeted Time 6 Min)

Consider the following code:

```
class Teacher {  
    int id  
    char *name;  
    float salary
```

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

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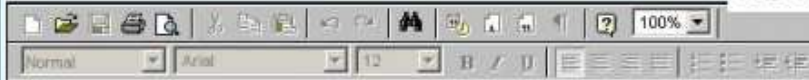
Question No : 48 of 52

Marks: 3 (Budgeted Time 6 Min)

What is Graceful Termination method of Error Handling, give its example using C++ code.

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

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Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

See the 5 code snippets below and tell whether these are correct or incorrect also justify your answers in the table given at the end.

Snippet No.1

```
template< class T>
class A {
```

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

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Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

Write a program which consists of a class named **Department**, this class should consists of two data members **DeptName** and **No_of_emps**, The class should further consists of three overloaded constructors, i.e. Default constructor, one argument constructor and two argument constructor and a member function named **Display** which display the Department information.

In main program define three reference variables for respective constructors and display its information.

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

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Consider the following code:

```
// publication class and derived classes
#include <iostream>
#include <string>
using namespace std;
```

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



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Create a Vector array of length 8, and also initialize the elements of this array with values 0 1 2 3 4 5 6 7.

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



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