

Time left 0:33:13

The \_\_\_\_\_ keyword is used to pass value-type variables to methods by-reference.

- ☐ a. reference
- ☒ b. ref
- ☐ c. None of these.
- ☐ d. RefPass

Passing an argument to a method by-value provides the method with:

- ☒ a. a separate copy of the value.
- ☐ b. the type of the value.
- ☐ c. the address of the value in memory
- ☐ d. None of these.

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## Question 24

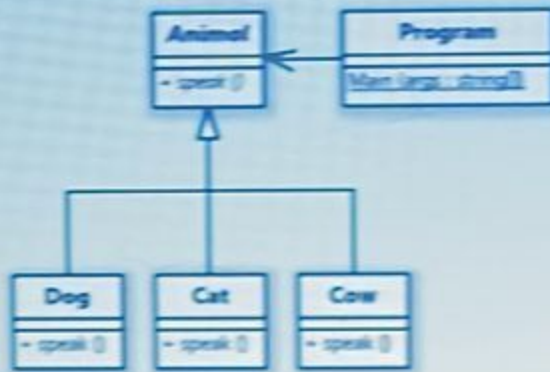
Not yet  
answered

Marked out of 7

Remove flag

Time left 0:16:07

Complete the C# Implementation code of the following UML class diagram.



Note that:

- The method speak in class Dog will print out "bow-wow"
- The method speak in class Cat will print out "miaow"
- The method speak in class Cow will print out "moo"

in the Main method of class Program use a **polymorphic reference** to call speak() method, so you need to code the following

- Create an array of 3 animals
- Make the elements of the array point to dog, cat and cow objects
- Use for loop to call speak() method on each object

using System;  
namespace Final

{

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- ☐ b. All of these.
- ☐ c. must implement a method called calculate.
- ☐ d. will not be able to access the instance variable a.

Base class methods with this level of access cannot be called from derived classes.

- ☐ a. public
- ☐ b. protected
- ☒ c. private
- ☐ d. package

Abstract class is primarily a grouping place for common data and behaviors to be inherited by subclasses

Select one:

- ☒ True
- ☐ False

Consider the classes below, declared in the same file:

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- ☐ b. All of these.
- ☐ c. must implement a method called calculate.
- ☐ d. will not be able to access the instance variable a.

Base class methods with this level of access cannot be called from derived classes.

- ☐ a. public
- ☐ b. protected
- ☐ c. private
- ☐ d. package

Abstract class is primarily a grouping place for common data and behaviors to be inherited by subclasses

Select one:

- ☐ True
- ☐ False

Consider the classes below, declared in the same file:

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Question 1

Not yet  
answered

Marked out of 2

Flag  
question

Consider the abstract class below:

```
public abstract class Foo
{
    private int a;
    public int b;

    public Foo( int aVal, int bVal )
    {
        a = aVal;
        b = bVal;
    } // end Foo constructor

    public abstract int calculate();
} // end class Foo
```

Any concrete subclass that extends class Foo:

- ☐ a. will not be able to instantiate an object of class Foo.
- ☐ b. All of these.
- ☒ c. must implement a method called calculate.
- ☐ d. will not be able to access the instance variable a.

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## Question 4

Not yet  
answered

Marked out of 2

Flag  
question

Consider the classes below, declared in the same file:

```
class A
{
    int a;
    public A()
    {
        a = 7;
    }
}
```

```
class B : A
{
    int b;
    public B()
    {
        b = 8;
    }
}
```

Which of the statements below is *true*?

- ☐ a. After the constructor for class B is executed, the variable b will have the value 7.
- ☒ b. A reference of type class A can be used to point to an object of class B.
- ☐ c. After the constructor for class B is executed, the variable a will have the value 8.
- ☐ d. Both variables a and b are class variables.

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## Question 5

Not yet  
answered

Marked out of 1

Flag  
question

The default Equals implementation determines:

- ☐ a. whether two references have the same type.
- ☐ b. whether two objects have the same instance variable values.
- ☐ c. whether two objects have the same instance variables.
- ☒ d. whether two references refer to the same object in memory.

## Question 6

Not yet  
answered

Marked out of 1

Flag  
question

An advantage of inheritance is that:

- ☐ a. all methods can be inherited.
- ☒ b. Objects of a derived class can be treated like objects of their base class.
- ☐ c. all instance variables can be uniformly accessed by base classes and derived classes.
- ☐ d. None of these.

## Question 7

Not yet  
answered

Marked out of 1

A class cannot have references to objects of other classes as members.

Select one:

- ☒ True

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# اساليب كائنية المنحى

Time left 1:11:1

Which of the following will violate the rules of overloading methods?

- ☐ a. Methods with different number of arguments.
- ☐ b. Methods with different signatures but the same return type.
- ☒ c. Methods with the same signatures but different return types.
- ☐ d. Method with different types of arguments.

What will be the output of the following C# code?

```
class A
{
    public virtual void display()
```

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Question 11

Not yet answered

Marked out of 1

Flag question

A value-returning statement must have a(n) \_\_\_\_\_ statement.

Select one:

- ☐ a. assignment
- ☒ b. return
- ☐ c. void
- ☐ d. logical

Question 12

Not yet answered

Marked out of 1

Flag question

Whenever you use the **new** operator, a special method defined in the given class (constructor which is a special method having the same name as the class name) called.

Select one:

- ☒ True
- ☐ False

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## Question 14

Not yet  
answered

Marked out of 1

Flag  
question

The method that is automatically executed when an object is created is

Select one:

- ☒ a. constructor
- ☐ b. setter
- ☐ c. getter
- ☐ d. toString

## Question 15

Not yet  
answered

Marked out of 3

Flag  
question

Match the following

Members of a class that can be referenced only within  
that class

private

Choose...

Members of class that can be referenced by any class in  
the same namespace

public

Choose...

Members of a class that can be referenced anywhere

internal

Choose...

Choose...

have internal visibility  
have private visibility  
have public visibility

## Question 16

Not yet

Which of the following is false?



Question 15

Not yet  
answered

Marked out of 3

Flag  
question

Match the following

Members of a class that can be referenced only within  
that class

Members of class that can be referenced by any class in  
the same namespace

Members of a class that can be referenced anywhere

have private visibility

have public visibility

have internal visibility

Question 16

Not yet  
answered

Marked out of 1

Flag  
question

Which of the following is *false*?

- ☐ a. A static method has no `this` reference.
- ☐ b. A static method can be accessed even when no objects of its class have been instantiated.
- ☐ c. A static method can call instance methods directly.
- ☒ d. A static method or property must be used to access private static instance variables.

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What is the private visibility symbol in the UML class diagram?

- ☐ a. +
- ☐ b. \*
- ☐ c. ^
- ☒ d. -

To create an aggregation relationship between a whole class A and a part Class B we use a ———

- ☐ a. Reference in class A of type B as a Local Variable
- ☐ b. Reference in class A of type B as a Static Variable
- ☐ c. Reference in class B of type A as an Instance Reference Variable
- ☒ d. Reference in class A of type B as an Instance Reference Variable
- ☐ e. Reference in class B of type A as a Parameter

The Object class is the ultimate root of all class hierarchies

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☐ d. None of these.

The parameter list in the method header and the arguments in the method call must agree in:

- ☐ a. number.
- ☐ b. order.
- ☐ c. All of these
- ☐ d. type.

Methods of a class can access all members defined in that class.

Select one

- ☐ True
- ☐ False

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☐ d. None of these.

Question 31

Not yet  
answered

Marked out of 1

Flag  
question

The parameter list in the method header and the arguments in the method call must agree in:

- ☐ a. number.
- ☐ b. order.
- ☒ c. All of these
- ☐ d. type.

Question 32

Not yet  
answered

Marked out of 1

Flag  
question

Methods of a class can access all members defined in that class.

Select one:

- ☒ True
- ☐ False

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Time left 0

A base class's constructors are inherited into its derived classes.

Select one:

☒ True

☐ False

Finish attempt

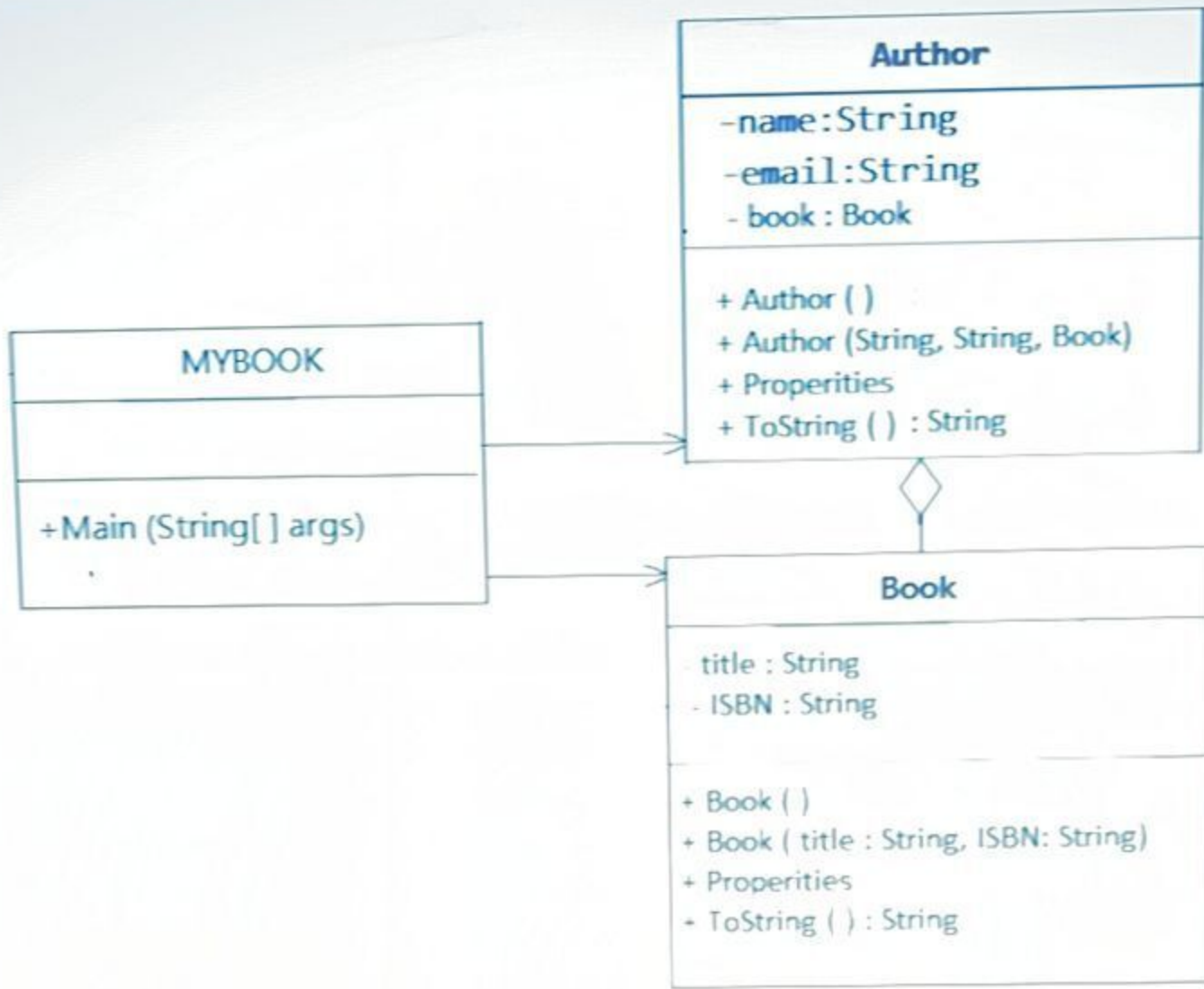
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Code the following UML:



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- ☐ e. Reference in class B of type A as a Parameter

Question 19

Not yet answered

Marked out of 1

Flag question

The Object class is the ultimate root of all class hierarchies

Select one:

☒ True

☐ False

Question 20

Not yet answered

Marked out of 1

Flag question

Attributes of a class are also known as:

☐ a. constructors.

☐ b. local variables.

☐ c. classes.

☒ d. instance variables

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## Question 21

Not yet  
answered

Marked out of 1

Flag  
question

A child class inherits from all its ancestor classes

Select one:

- ☒ True
- ☐ False

## Question 22

Not yet  
answered

Marked out of 1

Flag  
question

Which is used to specify that a class will be implementing an interface?

- ☐ a. extends
- ☐ b. using
- ☐ c. :
- ☒ d. implements

## Question 23

Not yet  
answered

Marked out of 1

Flag  
question

A constructor cannot:

- ☐ a. initialize variables to their defaults.
- ☐ b. have the same name as the class.
- ☒ c. specify return types or return values.
- ☐ d. be overloaded.

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Time left 0:45:50

25  
out of 1

Suppose non-abstract "Horse" class is a subclass of non-abstract Animal class. Which of the following is an invalid declaration and initialization?

Select one:

- ☐ a. All of them are valid
- ☐ b. `Animal a2 = new Horse();`
- ☒ c. `Horse h2 = (Horse) new Animal();`
- ☐ d. `Animal a1 = new Animal();`
- ☐ e. `Horse h1 = new Horse();`

26  
What will be the output of the following C# code?

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☐ d. Derived method

Question 27

Not yet  
answered

Marked out of 1

Flag  
question

A method must be declared \_\_\_\_\_ for it to be overridden by derived classes.

- ☐ a. overrides
- ☐ b. overridable
- ☒ c. virtual
- ☐ d. None of these

Question 28

Not yet  
answered

Marked out of 1

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question

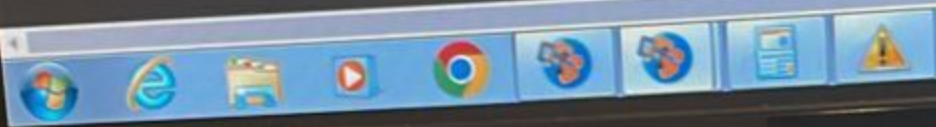
A constructor may not call other methods.

Select one:

- ☒ True
- ☐ False

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