

**TAW10 2/2
ABAP Workbench Fundamentals**

- 1 What is possible with a subclass in an inheritance relationship to the superclass
-

(More than one answer is correct)

- ✓ can provide inherited methods with new implementations (redefinition)
Components defined in the superclass are not present in the subclass unless they are explicitly defined in the definition of the subclass
- ✓ can add new components to the subclass
- ✓ inherits all the characteristics of the superclass
The subclass can remove components of the superclass

- 2 Choose the correct redefinition of the superclass method in class lcl_super_course
-

```
*Super Class Definition
CLASS lcl_super_course DEFINITION.
  PUBLIC SECTION.
    METHODS: get_course_name IMPORTING im_name type string.
ENDCLASS.
```

```
*Sub Class Method ReDefinition
A
CLASS lcl_sub_course DEFINITION INHERITING
  FROM lcl_super_course.
  PRIVATE SECTION.
    METHODS: get_course_name IMPORTING im_name type string.
ENDCLASS.
```

```
B
CLASS lcl_sub_course DEFINITION INHERITING
  FROM lcl_super_course.
  PUBLIC SECTION.
    METHODS: get_course_name IMPORTING im_name type string.
ENDCLASS.
```

```
C
CLASS lcl_sub_course DEFINITION INHERITING
  FROM lcl_super_course.
  PRIVATE SECTION.
```

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```
METHODS: get_course_name REDEFINITION.  
ENDCLASS.
```

```
D  
CLASS lcl_sub_course DEFINITION INHERITING  
    FROM lcl_super_course.  
    PUBLIC SECTION.  
        METHODS: get_course_name REDEFINITION.  
ENDCLASS.
```

✓

- SubClass Definition B
- SubClass Definition A
- SubClass Definition D
- SubClass Definition C

- 3 Identify the line that contains the valid use of the READ-ONLY additon
-

```
class lcl_course definition.  
  
10 public section.  
20   Data: Price(3) type p decimals 2  
        value 100 READ-ONLY.  
30   Types: type_category(15) type C READ-ONLY.  
40   Constants: write_position type I value 10 READ-ONLY.  
  
50 private section.  
60   data: category(15) type C READ-ONLY,  
70   class-data: course_count type I READ-ONLY.  
  
endclass.
```

✓

- 60
- 30
- 50
- 20
- 40

- 4 Class A provides friendship to Class B. Class B provides friendship to Class C. Identify the valid friend relationship.
-

(More than one answer is correct)

B and C are friends of A

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- ✓ A is friend of B and C
- ✓ B is friend of A
- C is friend of B
- C is friend of A

5 What are the rules for Event parameters

(More than one answer is correct)

- ✓ Events also allow RETURNING parameters
- EXPORTING Parameters for events can only be passed by reference
- ✓ EXPORTING Parameters for events can only be passed by value
- ✓ Events can only have EXPORTING parameters

6 Identify the ABAP OO Event signature protocols

(More than one answer is correct)

- ✓ Events can only have importing Parameters
- Events can only have exporting Parameters
- Exporting parameters can only be passed by reference
- ✓ Exporting parameters can only be passed by value

7 What component provides the Point of Contact for outside users

- Method Signature
- Private Attributes
- ✓ Public Attributes
- Instantiated Object

8 What is contained in a class that does not exist in an interface

- method
- definition
- ✓ implementation

9 What items are true about Inheritance

(More than one answer is correct)

- Superclass private components are visible only within the subclasses
- Superclass private components are visible to all subclasses
- Superclass protected components are visible to all subclasses
- Superclass public components are visible to all classes

10 Identify the characteristics of the self reference ME

- The self-reference ME can be used to access individual components
- None of the answers are correct
- Self references allow an object to give other objects a reference to it.
- All answers are correct
- The reference ME can be used to determine the dynamic type of the reference variable in the debugger

11 Finish the sentence. Propogating exceptions requires

- the Raising cx_class parameter as part of the method signature of the calling method
- a Cleanup Statement
- the Raising cx_class parameter as part of the method signature where the exception is raised
- a handler for the exception

12 When redefining methods in a subclass, what is allowed ?

(More than one answer is correct)

- ✓ Signature can be changed
- ✓ Only Instance methods
- ✓ Code can be changed
- Private Static methods

13 What can be said about the visibility of attributes in the following code

```
CLASS lcl_course DEFINITION.  
PUBLIC SECTION.  
    Data: name type string.  
  
PRIVATE SECTION.  
    Data: price type course-price.  
  
ENDCLASS.
```

(More than one answer is correct)

- ✓ name is available to methods only inside the class
- ✓ name is protected from outside access
- ✓ price is protected from outside access
- price is available to methods inside the class

14 What is the number of superclasses that can exist for a given subclass

- ✓ only many
- only 1
- 1 or many
- none

15 What name is always given to a static constructor ?

- static_constructor
- class=>constructor
- constructor
- ✓ class_constructor

16 How can a program access private attributes of an object

- ✓ By methods of a different object within the same Program
- Only by methods of the specific object itself
- From outside the class
- By methods of a different instance of the same object

17 Constructors have special considerations. Identify the incorrect statement below.

- ✓ Only Import and Exception Parameters are allowed
- A class can have multiple constructors
- Generally, constructor methods can not be called
- The Constructor must defined in the Public section

18 Mark the operators used to widen cast of a class

(More than one answer is correct)

- ✓ ?=
- >
- ==>
- ✓ ?TO
- =
- =?

19 Choose the item that is not characteristic of redefinition in the context of super/sub class inheritance.

- ✓ Attributes and class methods can be redefined.
- The signature of the method must remain the same
- Only instance methods can be redefined
- Constructor methods can't be redefined

- 20 Identify the valid statements that will write out the Static Attributes in the following code

```
class lcl_course definition.

    public section.
        data: name(15) type c value 'ABAPObjects101'.
              class-data price    type p value 100.

    private section.
        data: category(10) type C value 'Objects'.

endclass.

data: course1      type ref to lcl_course,
      course_name  type string,
      course_price type p,
      course_category type string.
```

(More than one answer is correct)

- ✓ write lcl_course->price.
- ✓ course_price = lcl_course=>price. Write course_price.
- ✓ write: price.
- ✓ write lcl_course=>price.

- 21 Identify the requirements that determine when an object gets deleted by garbage collection

(More than one answer is correct)

- ✓ When objects can no longer be addressed from main memory
- ✓ When there are no more references pointing to an object
- ✓ When none of its methods are registered as event handlers
- When all active objects are marked

- 22 Identify the one addition that is not part of the interface of a method
-

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✓
Returning
Exception
Result
Importing

23 The syntax for static method specification

✓
Call method class name =>method
Call class-method
Call Method-> class name
Call method class name->method

24 Your program has registered several handler methods. How does the program know what methods are available for execution when an event is triggered

✓
the system looks for registered handler methods In the event handler internal table and processes those that are registered for the event
The methods defined in the Class Definition listen for raised events and respond when an event is triggered
the system looks for registered handler methods In the registry table and processes those that are registered for the event
It is determined by the RAISE Event command

25 Refer to the following code and identify the statements that are TRUE

```
CLASS lcl_course DEFINITION.  
  PUBLIC SECTION.  
    METHODS: get_course_name IMPORTING im_name type string.  
    CLASS-METHODS: list_prices_and_discounts.  
ENDCLASS.
```

```
CLASS lcl_course IMPLEMENTATION.  
  METHOD get_course_name.  
  ENDMETHOD.  
  
  METHOD list_prices_and_discounts.  
  ENDMETHOD.  
ENDCLASS.
```


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```
Data: course1 type ref to lcl_course,  
      course2 type ref to lcl_course.
```

```
Start-of-selection.
```

```
Create object course1.  
Course2 = course1.
```

(More than one answer is correct)

- ✓ list_prices_and_discounts is a instance method
- ✓ Only one instance of method get_course_name exists
- Method list_prices_and_discounts can only be called once
- Memory is reserved for 2 instances of lcl_course
- ✓ method list_prices_and_discounts is a static method
- ✓ Only one instance of method list_prices_and_discounts exists

- 26 Initializing an object in a subclass requires that the constructor of the superclas is first called. Identify the correct syntax.
-

- Call Method Constructor
- Call Method Super Constructor
- ✓ Call Method Constructor-> Super
- Call Method Super-> Constructor

- 27 Identify the statements that best describe the visibility of classes
-

(More than one answer is correct)

- ✓ Global Classes are available only from programs belonging to the same development class
- ✓ Global classes are centrally available to all ABAP programs
- ✓ Local Classes are available only to the program where the class is defined
- Local Classes are available only to programs in the same development class

28 In the following method, what other parameters are allowed

```
CLASS lcl_course DEFINITION.  
  PUBLIC SECTION.  
    METHODS: get_course_name  
              IMPORTING im_name type string  
              Returning value(student_count) type I.  
ENDCLASS.
```

- ✓ Receiving
- Changing
- Exceptions
- Exporting

29 What is true about classes and objects in Object Oriented ABAP

(More than one answer is correct)

- ✓ Objects are an instance of a class
- ✓ Class is a template for an object
- Classes are an instance of an object
- Objects can change their class

30 The concept of restricting direct access to data via hidden internal processes is best represented by which term

- Instantiation
- Inheritance
- Polymorphism
- ✓ Encapsulation

31 The syntax for instance method specification is

(More than one answer is correct)

- ✓ Call method Objref=>method
- ✓ Call method Objref->method
- Call method (from within another instance method)

- 32 A program needs to gain access to the public attributes of class lcl_course. Identify the statements that are valid.
-

```
class lcl_course definition.
  public section.
    data: name(15)    type c value 'ABAPObjects101'.
          class-data price type p value 100.

  private section.
    data: category(10) type C value 'Objects'.

endclass.

data: course1          type ref to lcl_course,
      course_name      type string,
      course_price     type p,
      course_category  type string.

**INSTANTIATION OMITTED **
```

(More than one answer is correct)

- ✓ course_name = course1=>name.
name can not be accessed unless course1 is instantiated
- ✓ course_name = name
- ✓ course_name = course1->name.
- ✓ course_price = lcl_course=>price.

- 33 Mark the item that is NOT true about the handler table
-

- ✓ A single SET Handler command can be used to register multiple handler methods in the handler table
- Event handler methods are called in the sequence that they were registered in the handler table
- Registered Methods in the handler table can only be triggered by RAISE EVENT i.e. not by CALL METHOD
- There is a separate handler table for every object that has defined events

34 A public attribute 'color' is added to a superclass. A subclass already has the same attribute 'color'. What is the outcome ?

(More than one answer is correct)

- ✓ A syntax message will occur
- ✓ The subclass is invalidated
- A runtime error will occur
- The superclass is invalidated

35 In ABAP objects, which component is said to determine an objects behavior

- ✓ class
- signature
- method
- implementation

36 Choose the short form of the method call below

`call method rf_car->calculate_cost importing ex_size = v_size.`

- calculate_cost(importing ex_size = v_size).
- rf_car->calculate_cost importing ex_size = v_size.
- rf_car->calculate_cost (importing ex_size = v_size).
- ✓ rf_car->calculate_cost(importing ex_size = v_size).

37 An inherited class :

(More than one answer is correct)

- ✓ can redefine the public methods of the superclass
- can not access the protected components
- ✓ can add components over and above the superclass
- can access the inherited private components
- can remove superclass components

38 Identify the statement about Global Classes that is NOT true

- Global classes are stored in TADIR with key R3TR CLAS
- Access to a global class is done as a reference variable using TYPE REF TO
- A method to be transported is identified in transport organiser as LIMU METH
- ✓ Programs that are available to Global Classes must be associated in Class Builder
- Class Builder can be used to test global classes

39 What triggers an event

- Raise Event Inside the Method
- None of the answers are correct
- ✓ Raise Event
- All answers are correct
- Call Method

40 Where would the components of a class be defined

- ✓ Data Component of a program
- Definition part of Class
- Implementation part of a class
- Logic component of a program

41 Identify the Characteristics of a Final Class

- methods cannot be explicitly designated as FINAL
- cannot have subclasses
- No answers are correct
- contains final methods implicitly
- ✓ all answers are correct

42 Refer to the following code and Select the VALID method call

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```
Class lcl_course definition.
  Public section.
    data:    course_name(12)  type c.
    methods: display_price
             importing im_course_name type string.

  Private section.

    Data:    price                type P value 100.
    constants: c_objects101(10) type c value 'OBJECTS101'.

endclass.

class lcl_course implementation.

  method display_price.
    course_name = im_course_name.
    If course_name = c_objects101.
      Write: price.
    Endif.
  endmethod.

endclass.

Data obj_course type ref to lcl_course.

start-of-selection.

  create object obj_course.
```

Call method obj_course->display_price exporting
im_course_name = c_objects101.
Call method obj_course->display_price exporting
course_name = 'OBJECTS101'.
Call method obj_course->display_price importing
im_course_name = 'OBJECTS101'.
✓ Call method obj_course->display_price exporting
im_course_name = 'OBJECTS101'.

43 **What happens when the Set Handler command is executed**

✓ The Event Handler Method is registered
An instance of the event is created
The Event is handled
The Event is triggered

44 Select the term used for Classes that can implement the same method differently

- ✓ instantiation
- polymorphism
- casting
- inheritance
- encapsulation

45 Where is the visibility of class components defined

- ✓ Class Implementation
- Object Instance
- Class Definition
- Class Methods

46 What component of a class guarantees its own consistency

- ✓ public attributes
- static methods
- private attributes
- functional methods

47 What mechanism is used to define common components of different classes in one place

- ✓ Raise Event
- Class Definition
- Create Object
- Interface

48 What is the only component that is implemented in the implementation part of a class

Interface

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- ✓ Attribute
Method
Object
Event
- 49 Method
-
- ✓ display
lcl_basepart=>display
lif_material~display
lcl_basepart->display
lcl_basepart~display
lcl_basepart~display
- 50 Global Class cl_course has been defined using the class builder. The development class is ZCL. What is the key entry in the repository table TADIR
-
- ✓ None of the answers are correct
R3TR CLAS cl_course
R3TR cl_course
R3TR ZCL CLASS
R3TR GLOB CLASS
- 51 Where are the methods of a class implemented
-
- ✓ Implementation part of a class
Object instantiation part of a program
Definition part of Class
Call method of the class
- 52 Identify the behaviors of Abstract Classes.
-
- (More than one answer is correct)**
- ✓ Methods can only be implemented in the subclass
✓ Cannot be instantiated
Can only be implemented through an Interface

Methods can not be implemented in the subclass

- 53 In the context of Triggering and Handling of Events, mark those which apply
-

(More than one answer is correct)

- ✓ Events can be triggered with the Trigger Event command
- ✓ An event is defined in the Implementation of a Class
- ✓ Event Triggering using Raise Event can be issued in a method
- ✓ Methods must be registered to an event in order to be called when the event is triggered

- 54 In the context of relationship between Super and Sub classes, identify the statements which apply
-

(More than one answer is correct)

- ✓ A superclass is a specialization of a subclass
- ✓ Superclass does not know its subclasses
- ✓ Subclass does not know its superclass
- ✓ A change in a superclass does not automatically get realized in the subclass
- ✓ A subclass is a specialization of a superclass

- 55 A MOVE_CAST_ERROR runtime error just occurred. Identify the cause.
-

- ✓ Casting a super class to a subclass when superclass does not point to an instance of the subclass type
- Subclass reference variable corresponds to the superclass reference variable
- Super class method is called from the subclass
- Super class and subclass both point to an instance of the same class type

- 56 Using the UML modeling language for ABAP OO design, refer to the following and indicate the visibility of the components

```

-----
| cl_myclass          |
-----
| +city              |
| #address           |
|-----|
| + get_city()      |
| - display_addr() |
|                   |
|-----|

```

(More than one answer is correct)

- ✓ display_address is a private method
- display_address is a static public method
- display_address is a public method
- get_city is a public attribute
- ✓ address is protected attribute
- ✓ city is a public attribute

- 57 How do you call the method in a superclass that has the same name as a redefined method in the subclass ?

-
- Call Method mymethod.
 - You can't . Only the redefined method can be called
 - ✓ Call Method Super-> mymethod.
 - Call Method Superclass-> mymethod.

- 58 UML provides various diagram types. Mark the valid UML diagrams

(More than one answer is correct)

- ✓ Component
- ✓ Class
- Aggregation
- Composition
- ✓ Behavior

59 In the context of polymorphism and interfaces, mark the item that is NOT true

- ✓ the user is protected from the actual implementations
- ✓ interfaces contain their own implementation part
- ✓ a class can implement any number of interfaces
- ✓ interfaces describe the point of contact of a class

60 What would happen if the public components of a class were changed

- ✓ Inheritance becomes invalidated
- ✓ private components will also need to be changed
- ✓ Outside Users may have to make changes to their components to reflect the changes
- ✓ Nothing. The class maintains it's own status

61 Identify the valid rule when calling public methods from within the class

- ✓ When calling a static method, the class name can be omitted
- ✓ When calling a static method, the class name is required
- ✓ When calling an instance method, the => operator is still required
- ✓ Private methods can not call public methods

62 What syntax provides access to individual components of a class within the class

(More than one answer is correct)

- ✓ CALL METHOD ME->
object instance->ME->
- ✓ CALL METHOD object instance->ME->
ME->

63 What statement will request memory to be allocated to an object

- ✓ Call Method
- Create Constructor
- Create Object
- Call Constructor

64 Local Class lcl_course has been defined in a program belonging to development class ZCL. What is the key entry in the repository table TADIR

- ✓ R3TR LOCAL CLASS
- R3TR CLASS
- R3TR lcl_class
- R3TR ZCL CLASS
- None of the answers are correct

65 Changing the view of an instance of a class with more details is referred to as

- ✓ dynamic referencing
- narrowing cast
- widening cast
- up cast

66 Mark the items that characterize the Methods of a Class

(More than one answer is correct)

- ✓ Can change the state of an object
- Only pass return codes to the calling program
- ✓ Can be defined with a parameter interface
- ✓ Can access all attributes in their class
- Can access only public attributes in their class

67 Define Polymorphism

(More than one answer is correct)

- ✓ the same method is implemented in different ways by redefining the method in subclasses
- ✓ it is a characteristic when objects from different classes react differently to the same method call
- it is a characteristic when methods from different classes react differently to the same interface
- it is a characteristic when methods of the same class react differently to the same method call
- ✓ it is one of the main strengths of inheritance

68 Select the answers that apply to static methods and instance methods

(More than one answer is correct)

- Static methods **MUST** be addressed by object reference after instantiation
- Instance methods **MUST** be addressed by class name
- ✓ Instance methods **MUST** be addressed by object ref after instantiation
- ✓ Static methods **MUST** be addressed by class_name even when object is instantiated

69 Using example code below, choose the correct syntax for the redefined method

```
Class lcl_car definition.  
Public Section.  
  method calc_speed importing im_distance type ty_dist.  
End Class.
```

- Method calc_speed importing im_distance
Redefinition
- Method calc_speed Redefinition importing
im_distance type ty_dist.
- Method calc_speed importing im_distance.
- ✓ Method calc_speed Redefinition.

70 Mark the invalid attribute definitions

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```
class lcl_course definition.  
  
10 public section.  
20   Data: school(20)   type c,  
30         Supervisor  type string value ADAMS ,  
40         Price(3)    type p decimals 2 value 100 READ-ONLY.  
50   types: type_category(15) type c,  
60         type_name(10)     type c.  
  
70   constants: write_position type i value 10.  
80   class-data: course_count type i.  
90 private section.  
100  data: category(15) type c,  
110        name(10)     type c.  
120        courseid    like mara-matnr.  
  
endclass.
```

✓

40,70
30,120
70,80
30,80
40,120

71 Which statement will create an instance of a class

✓

Class my_class Definition.
Data: my_object TYPE REF TO my_class
Create Object my_object
Class my_class Implementation

72 Refer to the following code and indicate which statements are true

```
Data: cl_container type ref to cl_gui_custom_container,  
      cl_grid      type ref to cl_gui_alv_grid.
```

(More than one answer is correct)

✓

cl_grid points to the object that communicates with the container control

✓

cl_grid points to the object that communicates with the ALV grid control

cl_container points to the object that communicates with the ALV grid control

✓

cl_container points to the object that

communicates with the container control

73 Mark the items that characterize some primary differences between objects and functions

(More than one answer is correct)

- ✓ Calling a function loads the entire function group implicitly into memory whereas instances of an object are generated explicitly when an object is created
A program can directly access data in the function group while access to data in an object is not possible
- ✓ A program can only work with a single instance of the same function group versus a program can access several instances of the same object
Functions allow multiple instances of the same data objects. Objects only allow single instances of data

74 Which of the following answers characterize ABAP OO events

(More than one answer is correct)

- ✓ Methods subscribe to classes
Events subscribe to classes
Classes subscribe to events
Start-of-selection is an OO event
- ✓ Classes trigger events

75 What can be said about the lifetime of an object

- ✓ An object exists for as long as it is being used in the program
An object exists as long as at least one method of the object is registered as an event handler.
All answers are correct
An object exists as long as at least one reference points to it

76 Pick the syntax for a functional method with only 1 parameter

(More than one answer is correct)

- ✓ refvar->method receiving()
- ✓ refvar->method returning()
- refvar->method(p1)
- refvar->method(im = p1)

77 In object orientation, the term USER includes

- ✓ Attributes
- Events
- All of the answers are correct
- Methods
- None of the answers are correct

78 Finish the following sentence so that it is TRUE. Static Components in an inheritance relationship.....

(More than one answer is correct)

- ✓ does not allow for methods to be redefined in subclasses
- cannot be shared
- ✓ exist once per roll area
- receive their own copy of the static attribute for each subclass

79 What implications exist when private components of a class are changed

- Users of the private components must change their interface
- None of the answers are correct
- Any programs accessing the class must also change
- ✓ Programs are insulated from change