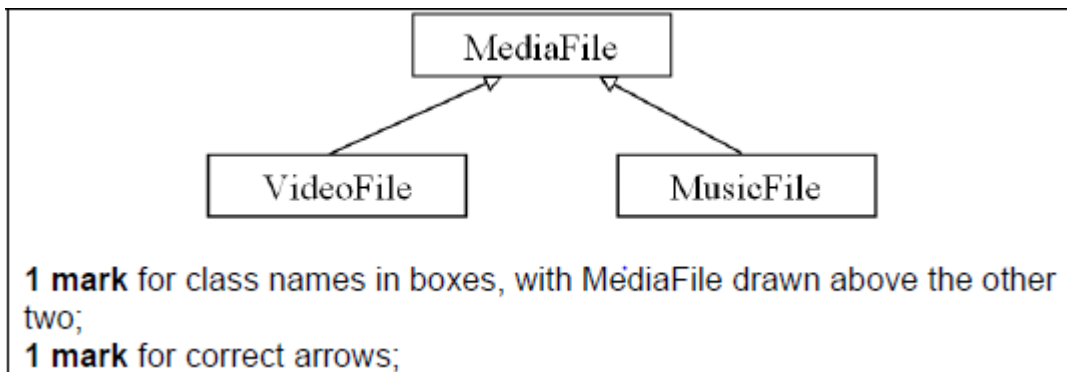
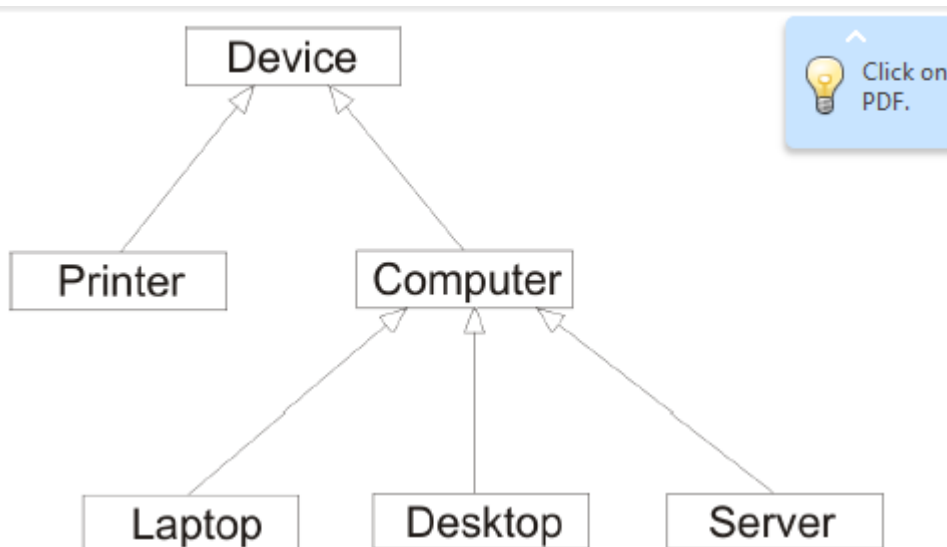


Inheritance Diagram questions mark scheme

1.



2.



1 mark for Device at top of diagram with Printer and Computer directly underneath it and linked to it and no other labels linked to it;

1 mark for Computer with Laptop, Desktop and Server directly underneath it and linked to it, and no other labels linked to it (except Device above);

1 mark for correctly styled diagram, i.e. lines drawn as arrows and boxes (any shape) around labels; - ***This mark is only available if candidate has already achieved at least one mark for correct contents of the diagram.***

Class definitions questions mark scheme

1.

```
MusicFile = Class/Subclass (MediaFile)           1
    Public
        Procedure PlayFile (Override)             1
        Function  GetArtist                       }
        Function  GetSampleRate                   } 1
        Function  GetBitDepth                     }
    Private
        Artist : String                           }
        SampleRate : Real                         } 1
        BitDepth : Integer                       }
End
```

1 mark for correct header including name of class and parent class;
1 mark for redefining the PlayFile procedure;
1 mark for defining all 3 extra functions needed to read variable values;
1 mark for defining all 3 extra properties, with appropriate data types in private section;

2.

```
Computer = Class/Subclass/Extends (Device)
1
    (Public)
        Procedure AddDevice (Override) 1
        Function  GetProcessorName      }
        Function  GetRAMCapacity        } 1
        Function  GetHDDCapacity       }
    Private / Protected
        ProcessorName : String         }
        RAMCapacity : Integer          } 1
        HDDCapacity : Integer         }
End
```

Accept answers that use different notations, so long as meaning is clear.

1 mark for correct header including name of class and parent class;
1 mark for redefining the AddDevice procedure;
1 mark* for defining all 3 extra functions needed to read variable values, all identified as being public (keyword public is optional if functions are declared before variables);
1 mark# for defining all 3 extra variables, with appropriate data types and identified as being private;

3.

```
Laptop = Class/Subclass (Computer)           1
      (Public)
      Procedure AddDevice (Override)          1
      Function  GetBluetoothInstalled
      Private / Protected                    } 1
      BluetoothInstalled : Boolean
End
```

1 mark for correct header including name of class and parent class;

MAX 1 of the following two marks:

1 mark for redefining the AddDevice procedure;

1 mark* for :

- defining the GetBluetoothInstalled function needed to read this value, identified as being public (keyword public is optional if function is declared before variable)
- defining the BluetoothInstalled variable with an appropriate data type as being private.

June 2014 Qu 8 mark scheme

1.

A class/subclass has/shares/can access properties and methods of the (parent) class it is derived from;

Building a hierarchy of classes with each child class inheriting access to its parent class' methods and properties;

Relationship between two object (types) in which one object (type) is a kind of the other;

MAX 1

1

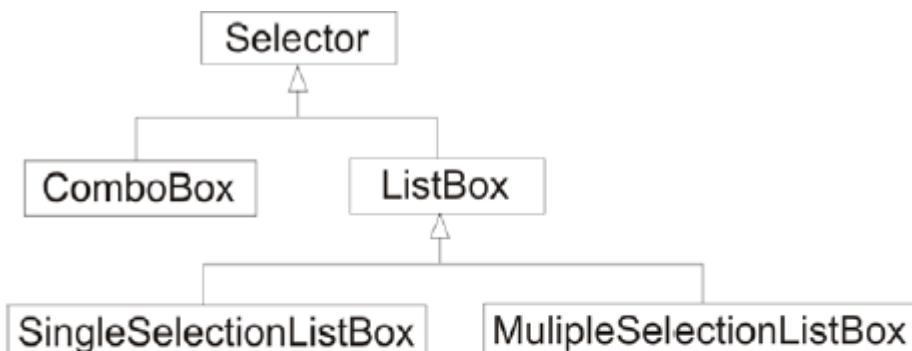
2.

Method can be defined with same name; **A** method can be redefined, an inherited method (but not just inheritance) as implying same name

But have different implementation/code // perform different function;

The redefined method will be used instead of the parent's method;

3.



3

1 mark for Selector at top of diagram with ComboBox and ListBox directly underneath it and linked to it and no other labels linked to it;

1 mark for ListBox with SingleSelectionListBox and MultipleSelectionListBox directly underneath it and linked to it, and no other labels linked to it (except Selector above);

MAX 1 of the above two marks if any additional links drawn in

1 mark for correctly styled diagram, i.e. lines drawn as arrows and boxes (any shape) around labels; - ***This mark is only available if candidate has already achieved at least one mark for correct contents of the diagram.***

4.

```
ComboBox = Class (Selector)
  Public
    Procedure SelectItemFromList
    Procedure Display
    Procedure KeyPressed
    Function  GetTextTyped
    Function  GetSelectedItemNumber
    Procedure SetAllowNonListInputs
  Private
    TextTyped: String
    SelectedItemNumber: Integer
    AllowNonListInputs: Boolean
End
```

5

Accept answers that use different notations, so long as meaning is clear.

Accept any sensible names for subroutines, except SelectItemFromList which must have this name as it overrides a procedure in the parent class.

1 mark for correct header including name of class (ComboBox) and parent class (Selector);

1 mark for overriding the SelectItemFromList procedure (it is not necessary to state that overriding is occurring but must be public);

2 marks for defining all 5 other extra functions/procedures needed, all identified as being public (keyword public is optional if they are declared before variables); **OR 1 mark** if at least 2 of them defined;

1 mark for defining all 3 extra variables, with appropriate data types and identified as being private;
