With pointer variables you can access, but you cannot modify, data in other variables.

|  |  |
| --- | --- |
|  | True |
|  | False |

Memory cannot be allocated after a program is already running.

|  |  |
| --- | --- |
|  | True |
|  | False |

To insert a node into a doubly linked list requires references to the node before and after the location we wish to insert the new node.

|  |  |
| --- | --- |
|  | True |
|  | False |

To dereference a structure pointer and simultaneously access a member of the structure, the appropriate operator to use is

|  |  |
| --- | --- |
|  | an asterisk, \*. |
|  | the structure pointer operator, ->. |

|  |  |
| --- | --- |
|  | the ampersand, &. |
|  | the dereference operator, <-. |

|  |  |
| --- | --- |
|  | None of the above |
|  |  |

For a linked structure you must allocate memory for each node.

|  |  |
| --- | --- |
|  | True |
|  | False |

To store a list in an array all items must be in adjacent elements, i.e. there can be no empty elements in the array other than at the end.  For small lists, which of the following is true for the time required for inserting a new item into a linked list compared to insertion in such an array?

|  |  |
| --- | --- |
|  | exactly the same. |
|  | more efficient. |

|  |  |
| --- | --- |
|  | about the same. |
|  | less efficient. |

The term \_\_\_\_\_\_\_\_ means the ability to take many forms.

|  |  |
| --- | --- |
|  | polymorphism |
|  | inheritance |

|  |  |
| --- | --- |
|  | member function |
|  | encapsulation |

|  |  |
| --- | --- |
|  | None of the above |

\_\_\_\_\_\_\_\_ to a base class may be assigned the address of a derived class object.

|  |  |
| --- | --- |
|  | Pointers |
|  | Private members |

|  |  |
| --- | --- |
|  | Static members |
|  | Access specifiers |

|  |  |
| --- | --- |
|  | None of the above |

No objects can be defined of abstract base class type since it is an incomplete definition.

|  |  |
| --- | --- |
|  | True |
|  | False |

A destructor should always be declared virtual.

|  |  |
| --- | --- |
|  | True |
|  | False |

A class that has a pure virtual member function is called a concrete base class.

|  |  |
| --- | --- |
|  | True |
|  | False |

A program decides after it begins to run what function to execute in response to a statement such as refToObject.func()is an example of

|  |  |
| --- | --- |
|  | polymorphism |
|  | late binding |

|  |  |
| --- | --- |
|  | virtual functions |
|  | all the above |

Redefining and overriding are exactly the same thing.

|  |  |
| --- | --- |
|  | True |
|  | False |

3) When the compiler binds a call to a member function using only information available at compile time, the compiler is said to use \_\_\_\_\_\_\_\_ binding.

|  |  |
| --- | --- |
|  | static |
|  | local |

|  |  |
| --- | --- |
|  | safe |
|  | dynamic |

|  |  |
| --- | --- |
|  | None of the above |

To locate a value in an ordered array of 100 items, binary search must examine at most \_\_\_\_\_\_\_\_ values.

|  |  |
| --- | --- |
|  | 7 |
|  | 10 |

|  |  |
| --- | --- |
|  | 50 |
|  | 100 |

|  |  |
| --- | --- |
|  | 101 |

A sorting algorithm can be used to arrange a set of \_\_\_\_\_\_\_\_ in \_\_\_\_\_\_\_\_ order.

|  |  |
| --- | --- |
|  | numeric values, ascending |
|  | strings, descending |

|  |  |
| --- | --- |
|  | strings, ascending |
|  | numeric values, descending |

|  |  |
| --- | --- |
|  | All of the above. |

Which search algorithm steps sequentially through an array, comparing each item with the search value.

|  |  |
| --- | --- |
|  | linear |
|  | binary |

|  |  |
| --- | --- |
|  | bubble |
|  | None of the above |

A(n) \_\_\_\_\_\_\_\_ search is more efficient than a(n) \_\_\_\_\_\_\_\_ search.

|  |  |
| --- | --- |
|  | integer, double |
|  | linear, binary |

|  |  |
| --- | --- |
|  | string, double |
|  | binary, linear |

When sorting an array of objects or structures, one must decide which data item to sort on.

|  |  |
| --- | --- |
|  | True |
|  | False |

A pointer with the value 0 (zero) is called the NULL pointer.

|  |  |
| --- | --- |
|  | True |
|  | False |

Which of the following are potential problems when we use the delete operator on a pointer variable?

|  |  |
| --- | --- |
|  | inaccessible heap memory |
|  | dangling pointers |

|  |  |
| --- | --- |
|  | uninitialized pointers |
|  | NULL pointers |

The \_\_\_\_\_\_\_\_, also known as the address operator, returns the memory address of a variable.

|  |  |
| --- | --- |
|  | exclamation point ( ! ) |
|  | ampersand ( & ) |

|  |  |
| --- | --- |
|  | asterisk ( \* ) |
|  | percent sign (%) |

|  |  |
| --- | --- |
|  | None of the above |

An array name is a pointer constant because the address it represents cannot be changed during run-time.

|  |  |
| --- | --- |
|  | True |
|  | False |

Virtual functions allow old code to call new code.

|  |  |
| --- | --- |
|  | True |
|  | False |

In C++, polymorphism is very difficult to achieve unless you also use inheritance.

|  |  |
| --- | --- |
|  | True |
|  | False |

The virtual property is not inherited.

|  |  |
| --- | --- |
|  | True |
|  | False |

Declaring a member function of a class to be a \_\_\_\_\_\_\_\_ will cause the C++ compiler to use dynamic binding.

|  |  |
| --- | --- |
|  | static function |
|  | destructor function |

|  |  |
| --- | --- |
|  | constructor function |
|  | virtual function |

|  |  |
| --- | --- |
|  | None of the above |

You should document the need for an abstract class in your class hierarchy.

|  |  |
| --- | --- |
|  | True |
|  | False |

To find a value that is in an unordered array of 100 items, linear search must examine an average of \_\_\_\_\_\_\_\_ values.

|  |  |
| --- | --- |
|  | 7 |
|  | 10 |

|  |  |
| --- | --- |
|  | 50 |
|  | 100 |

|  |  |
| --- | --- |
|  | 101 |

If algorithm A requires 2n + 1 basic operations to process an input of size n, and Algorithm B requires 3n + 2 basic operations to process the same input, algorithm A is considered to be more efficient than Algorithm B.

|  |  |
| --- | --- |
|  | True |
|  | False |

When searching for an item in an unordered set of data, binary search can find the item more quickly than linear search.

|  |  |
| --- | --- |
|  | True |
|  | False |

The virtual function mechanism binds the “right” function to objects.

|  |  |
| --- | --- |
|  | True |
|  | False |

Using a linear search, you are more likely to find an item than if you use a binary search.

|  |  |
| --- | --- |
|  | True |
|  | False |

If a bubble sort is used to arrange the numbers 7 5 3 9 2 6 in ascending order, what order will the data be in after the first pass?

|  |  |
| --- | --- |
|  | 2 3 5 6 7 9 |
|  | 5 7 3 9 2 6 |

|  |  |
| --- | --- |
|  | 2 5 3 9 7 6 |
|  | 5 3 7 2 6 9 |

|  |  |
| --- | --- |
|  | none of the above |

The code segment int \*ptr; has the same meaning as

|  |  |
| --- | --- |
|  | int ptr; |
|  | int\* ptr; |

|  |  |
| --- | --- |
|  | \*int ptr; |
|  | int ptr\*; |

|  |  |
| --- | --- |
|  | None of the above |

Which of the following can be virtual?

|  |  |
| --- | --- |
|  | Constructors |
|  | Destructors |

|  |  |
| --- | --- |
|  | Friend functions |
|  | Static functions |