1. A **pointer** is a programming language data type whose value refers directly to (or "points to") another value stored elsewhere in the computer memory using its address
2. Union allocates the memory equal to the maximum memory required by the member of the union but structure allocates the memory equal to the total memory required by the members.
3. b
4. When using by reference there is no new variable just a alias to the memory address, if this parameters is not constant it is possible to change the content of that address.

When using by value a new variable will be created in memory and it is impossible to change the original content.

1. Yes
2. Inheritance is the ability to derive the objects or function from its base or parent class and use it. Types are:
3. Single level inheritance
4. Multilevel inheritance
5. Hierarchical inheritance
6. Hybrid inheritance
7. Multiple inheritance
8. 5794
9. Linked list consists of data nodes, each pointing to the next in the list and the memory is non- contiguous. An array consists of contiguous chunks memory of predetermined size
10. Polymorphism means more than one form

There are two types of polymorphism.

1. Overloading

Overload existing operator or function to perform more than one action

1. Overriding

The base class code is overridden by the derived class to behave differently

1. 0 0 1
2. Macros are the small piece of code which can be reused anywhere and any number of time in the program.

Advantage is that it saves memory and time, because with the use of macros the compilation will become faster and it is very easy to change any value in the big program.

Disadvantage of the macro is it increase the size of the program because the pre-processor will replace all the macro name in the program by it actual definition before the compilation of the program

1. Structures and unions share the following characteristics:

Their members can be objects of any type, including other structures and unions or arrays. A member can also consist of a bit field.

The only operators valid for use with entire structures and unions are the simple assignment (=) and sizeof operators. In particular, structures and unions cannot appear as operands of the equality ( == ), inequality (!=), or cast operators. The two structures or unions in the assignment must have the same members and member types.

A structure or a union can be passed by value to functions and returned by value by functions. The argument must have the same type as the function parameter. A structure or union is passed by value just like a scalar variable; that is, the entire structure or union is copied into the corresponding parameter

1. 4
2. It is a process of analysing the given relation schemas based on their Functional Dependencies (FDs) and primary key to achieve the properties  
    Minimizing redundancy  
    Minimizing insertion, deletion and update anomalies
3. b
4. Primary key constraints
5. Foreign key constraints
6. Unique constraints
7. Check constraints
8. Default constraints
9. Inner join
10. Left outer join
11. Right outer join
12. Self join
13. Equi join
14. Natural join
15. Cross join

return statement cannot be used as shown in the conditional operator.

return(a>20 ? 10 : 20);

This data model is based on real world that consists of basic objects called entities and of relationship among these objects. Entities are described in a database by a set of attributes

DDL statement:

1. Create
2. Alter
3. Drop

DML statements:

1. Insert
2. Update
3. Delete