What is networks?

Ans. Networks may be defined as connection of distantly separated computers.

Difference between calloc and malloc?

Ans. Calloc—takes 2 arguments (no. of bytes,no. of elements)

Initializes the value to 0

Malloc—takes 1 argument,(no. of bytes)

Allocates single block of memory and returns a pointer to its first byte

What are the advantages of using pointers

Ans. Pointers help to directly access memory blocks.

Accessing array elements

  Passing arguments to a function when the function needs to modify the original argument

  Passing arrays and strings to functions

  Obtaining memory from the system

  Creating data structures such as linked lists and binary trees

• What is the difference between White box testing and Black box testing?

In black box testing only the initial and final states are known, no inner details are known. Intermediate stages are not known., no programming knowledge reqd. Done at higher levels of testing, no implementation knowledge reqd, test cases for testing are based on requirement specification

In white box testing intermediate states are well known as well as initial and final states. The developer requires programming knowledge and implementation knowledge. Done at lower levels of testing. The test cases are based on design details.

• What is Ip address?

An IP address is a 32-bit address, which gives the address of a system on network. It is dynamic and can change each time a network is set up.

IP address is divided in to 4 classes.

Class A: starts with 0 (0-127)

Class B: starts with 10(128-)

Class C:starts with 110

Class D: starts with 1110 ---multicast

Class E: starts with 11110----reserved for future use

Difference between Arrays and Linked List?

Array is a collection of same data types together. It’s any element can be accessed using index. Deletion or insertion of an element doesn’t affect other elements.Random access, Static size

Linked list is also a collection of same data types together, connected to its neighbours but access can’t be done using index. Sequential access, dynamic sie

Array is contiguous set of memory location whereas memory for linked list can be allotted anywhere in free space, thus proves to be better in dynamic programming.

• What are pointers in c?

Pointers are any variable that stores value of address of another variable. They are a way to access memory locations, change value of variable outside its scope, passing arrays and string to functions and returning them from function and to implement DS like LL and BTs.

• What is data warehousing?

Data warehousing may be defined as storing data from different repositories to carry out query, reporting and analysis.

• What is Recursion Function?

A recursion function can be defined as a function which calls itself. It is a powerful way to write strong functions.

• What is TDM?

• What are the types of Networks?

The network can be categorised in to different categories on different basis:

Spread: LAN(within a building), MAN(distantly separated places),WAN(between cities and town)

Topology: Star, bus, ring

Protocols: Ethernet, token ring

Architecture: peer-peer, client-server

The two different types of network are:

Subnet: A connectionless network in which when a message enters , all its packet don’t follow the same path. The paths are not predefined.

Virtual Circuit network: A connection oriented network in which each packet of a message follows a predefined path. Before a packet enters, a network path is established.

• Difference beyween callby value and callby reference?

Call by value—passes the value of the variable in a function

Call by reference—passes the address of the variable in the function

• What is the difference between Ram and Rom?

RAM: It is random access Memory,volatile, allows R/W right, integrated chip on mother board, stores temporarily, boosts the speed

ROM: Read Only Memory, non-volatile, allows only Read right, boot loader lies here

• What is polymorphism?

• What are the layers of OSI Model?

The different layers of OSI model are:

Physical Layer🡪Data link layer🡪Network Layer🡪Transport Layer🡪Session Layer🡪Presentation Layer🡪Application Layer

• Difference between TCP and UDP?

TCP-🡪connection oriented, reliable, allows flow control, error control, congestion control

UDP🡪 connection less, unreliable, doesn’t allow flow control, error control or congestion control, no guarantee for timing of delivery. Eg. WiFi

• What is Function Overloading?

Function overloading may be defined as calling functions with same name but different types and no. of parameters and definition, i.e. function overloading allows a function to do different task

• What is Inheritance?

Inheritance may be defined as ‘has a’ relationship. The class receives all the properties of its previous class in inheritance.

• What is the difference between C and C++?

C- process oriented, scanf-printf, no function overloading, no OOPs, no exception handling, malloc-free, declare function before use not a must, enums, need to provide return 0;, .c, top down approach

C++- object oriented, cout-cin, function overloading, OOPs, exception handling, new-delete, must declare function before use, Booleans, automatic return 0 possible, .cpp, bottom up approach

• What is the difference between array and pointer?

Array is a collection of elements, fixed allocation, can be initialised,

Pointer is an indicator or the address of the value to which it points, dynamic allocation, can’t be initialised.

• What is normalisation?and their types?

Normalisation may be defined as removing redundancy and inconsistency from the database. It is of types:

1NF: non-atomic, atleast partial dependency on primary key

2NF: non-pri. Attribute’s full dependency on pri. key

3NF: no transitivity between 2 non-prime attributes

BCNF: remove overlapping attribute, LHS should be a candidate key

• What is the difference between Char and Varchar in DBMS?

Char allows only character whereas varchar allows both number and character.

• What is OS?

OS is a collection of computer software thet manages computer hardware. It controls various functions of the system. It controls system calls, function calls, scheduling algorithms and others such that a system runs well. Application program requires OS to execute

• What is a tree?

A tree is a DS with finite set of elements which is either empty or partitioned into 3 sets, left subtree, right subtree and root. Each element of binary tree is called node.It graphically looks like a real tree with root at the top. It is a better way of storing data, because it takes less time to search and insert values. Its complexity is less.

• What is a linked list?

A linked list is a DS which allows dynamic memory allocation. It has sequential access. It is a series of nodes. Each node has data and link to the next node. Thus any node can be deleted or a value can be inserted anywhere using sequential access.

• What is a struct?

A struct is also a DS with difference from other DS that it can store multiple data types. It defines a data type one of its kind. The data type created may contain elements of different data type also i.e it aggregates objects of different data types under a single head. The size of struct is the sum of all its components