ASSIGNMENT 11

Q1] What are the characteristics of C++ Programming Language

1) It is a native Programming Language
2) It is a High Level Programming Language
3) It is a compiled Programming Language
4) It is an Object Oriented Programming Language
5) It supports procedural as well as Object Oriented Way
6) It is a block structured language.
7) It supports the static data typing concept.

Q2] What is mean by a Class ?

Object Orientation is the most important building block of C++ Programming Logic. Tho achieve the concept of Object Orientation C++ provides the new data type Class.

Class is considered as an User-defined Datatype, which is almost similar as Structure from C Programming Language.

Class is an User-defined Data type which contains two things :-

1> Characteristics (Data Members)
2> Behaviours (Functions)

Q3] Write notes on Constructor & Destructor

The concept of Constructor & Destructor is almost same in C++ & Java. But there is no concept of Destructor in Java. Constructor & Destructor are considered as special functions. constructor is a function which gets automatically called where we create a object of a class. The compiler will call the constructor before allocating the memory for the object. The Destructor is a function which gets automatically called before creating the memory for the object.

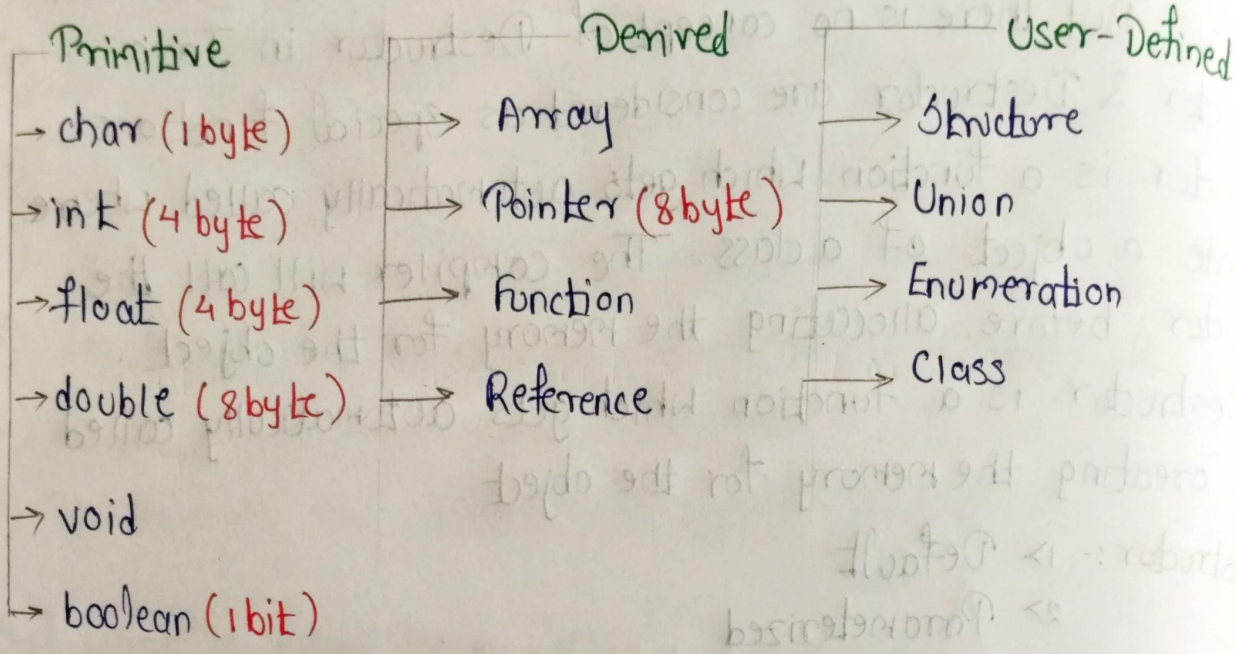
. Constructor :- 1> Default
2> Parameterized
3> Copy

Constructor is used to initialise the characteristics as well as it is use to allocate the resources.

Destructor is not used to allocate the memory for the object It is used to deallocate the resources which were allocated inside the constructor. Destructor gets automatically called before deallocating the memory of the object.

Q4] What are the data types in C++ ? List them with their size.

Data Types in C++



Q5] Explain the tool chain of C++ program

The toolchain of C++ Program is same as that of C Programming Language.

Refer Assignment1 Q4.

Q6] What is mean by Abstraction

Hiding something from the outside world is known as Abstraction. To achieve this we use access specifier like private

Q7] What is mean by Access specifier ? Explain each with an example.

There are 3 types of Access Specifier in C++ :-

A] public
B] private
C] protected

The concept of Access specifier is used to specify which part of a class can be accessed by the outsiders & which part cannot be accessed by the outsiders.

If we want to allow everyone to access without any restrictions then it should be written under public access specifiers.

If we want to hide something from outside world then we should use private access specifier. The data which is written under private access specifier is only accessible inside the class in which it is written

If the class wants to provide the access of its child class (derived class) then that data should be written inside the protected access specifier.

Q8] Write a program to find out maximum of two numbers using procedural (C) & object oriented approach (C++).

```
#include<stdio.h>
int main()
{
  int n1, n2, max;
  printf("Enter two numbers: ");
  scanf("%d %d", &n1, &n2);
```

```
    if (n1 > n2){
        max = n1;
    }
    else {
        max = n2;
    }
    printf("Maximum number is: %d \n", max);
    return 0;
}
```

```
#include <iostream>
using namespace std;
int main()
{
    int n1, n2, max;
    cout << "Enter two numbers: ";
    cin >> n1 >> n2;
    max = (n1 > n2) ? n1 : n2;
    cout << "Maximum number is: " << max << endl;
    return 0;
}
```

Q9] Explain the Object Oriented Programming Paradigm

The Object Oriented Programming Paradigm are :-

1> Encapsulation
2> Abstraction
3> Inheritance
4> Polymorphism

1> Encapsulation :-

Binding characteristics & behaviours together is called encapsulation. To ~~are~~ achieve this we create a class.

2> Abstraction:

Hiding something from the outside world is known as Abstraction. To achieve this we use access specifier like private.

3> Inheritance:

It is considered as reusability & to achieve this we need to inherit the derived class from the parent class.

4> Polymorphism

Single name & multiple behaviours is called polymorphism

Q10] Write difference between C & C++

Points	C	C++
Paradigm	Procedural Programming	Object-oriented programming
Focus	Functions	Objects & class
Standard I/O	scanf() & printf()	cin & cout
Error Handling	No exception Handling	Supports exception handling
Dynamic memory	malloc(), calloc() & realloc()	new & delete

namespace	Not available	Available
File extension	.c	.cpp