



19 CSE100 –PROBLEM SOLVING AND ALGORITHM THINKING
PROGRAMMING LANGUAGE SURVEY ASSIGNMENT

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C++

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WHAT IS C++ ?

- C++ is a general-purpose, object-orientated programming language.
- It was created by Bjarne Stroustrup at Bell Labs circa 1979.
- C++ is very similar to C (invented by Dennis Ritchie in the early 1970s).
- It is an imperative and a compiled language.
- It is a cross-platform language that can be used to create high-performance applications.
- C++ gives programmers a high level of control over system resources and memory.



USE OF C++ PROGRAMMING LANGUAGE

OPERATING SYSTEMS:

- C++ is a fast and strongly-typed programming language which makes it an ideal choice for developing operating systems.
- Mac OS X has large amounts written in C++.
- Most of the software from Microsoft like Windows ,Microsoft Office and Internet Explorer are also written in C++.

WEB BROWSERS:

- C++ plays a role in web browsers, such as Google Chrome , Safari and Opera.
- C++ helps web browsers carry out these tasks with speed and minimal delays, which means we don't have to wait long for content to appear on our screens.

GAMES:

- C++ is widely used in programming of game development engines.
- C++ can easily manipulate hardware resources.
- It can also provide procedural programming for CPU intensive functions.

BANKING APPLICATIONS:

- Since banking applications require concurrency , multi-threading , concurrency, and high performance ,C++ is the default choice of programming language.
- Infosys Finacle is a popular banking application developed using C++.

PARADIGM

C++ is a multi – paradigm programming language as it follows three paradigms :

GENERIC –Using a single idea that serves multiple purposes.

IMPERATIVE-Using steps that change the state of the program.

OBJECT – ORIENTATED-Using methods and classes for reusability and modularity .

HELLO WORLD PROGRAM

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      printf("Hello World\n");
6      return 0;
7  }
8
9
```

INFLUENCED FROM

- ✓ C++ is a superset of the C language. A related programming language, Java, is based on C++ but optimized for the distribution of program objects in a network such as the Internet.

INFLUENCED TO

- ✓ C++ influenced many programming languages such as C# ,Java , and other new versions of C.

ADVANTAGES OF C++

- ❖ C++ provides this feature of portability allowing us to develop codes without caring about the hardware.
- ❖ The OOP concepts like polymorphism and abstraction give C++ the biggest advantage over other programming languages .
- ❖ It supports DMA (Dynamic Memory Allocation) which helps to free and allocate memory .
- ❖ It is useful to make GUIs as well as games . C++ is useful to develop graphics and real – time algebraic simulation .
- ❖ It helps in making the software development faster.

DISADVANTAGES OF C++

- ❑ Algebraic data types like tuples and structs are not supported in C++.
- ❑ Memory corruption can also take place if one puts wrong values in the same. To sum up, debugging pointer bugs is very difficult.
- ❑ In C++ we can't define operators for specific operations. But, we can redefine existing operators using operator overloading, but nothing more.
- ❑ There's no support for built-in threads in C++.
- ❑ C++ is unsafe in strong sense.



Thank you !