Overview

* C produces compact and efficient programs
* C is on of the most import programming languages and will continue to be so
* The main features of C are the following:
* Efficient
* Portable
* Powerful and Flexible
* Programmer Oriented

Efficiency and Portability

* C is an efficient language
* takes advantage of the capabilities of current computers
* C programs are compact and fast (similar to assembly language programs)
* programmers can fine-tune their programs for maximum speed of most efficient use of memory
* C is a portable language
* C programs written on one system can be run on other systems with little or no modification
* a leader in portability
* compilers are available for many computer architectures
* Linux/Unix systems typically come with a C compiler as part of the package
* compilers are available for personal computers
* A good chance that you can get a compiler for android/iOS

Power and Flexibility

* the Unix/Linux kernel is written in C
* many compilers and interpreters for other languages (FORTRAN, Perl, Python, Pascal, LISP, Logo, and Basic) have been written in C
* C programs have been used for solving physics and engineering problems and even for animating special effects for movies
* C is flexible
* used for developing just about everything you can imagine by way of a computer program
* accounting applications to word processing and from games to operating systems
* it is the basis for more advanced languages, such as C++

It is also used for developing mobile phone apps in the form of Objective C

* C is easy to learn because of compactness
* is an ideal first language to learn if you want to be a programmer
* you will acquire sufficient knowledge for programming in other languages
* C fulfills the needs of programmers
* gives you access to hardware
* enables you to manipulate individual bits in memory
* C contains a large selection of operators which allows you to express yourself succinctly
* C is less strict than most languages in limiting what you can do
* can be both and advantage and a danger
* advantage is that many tasks (such as converting forms of data) are easier in C
* danger is that you can make mistakes (pointers) that are impossible in some languages
* C gives you more freedom, but it also puts more responsibility on you
* C implementations have a large library of useful C functions
* provides low level features that are generally provided by the Lower level languages
* programs can be manipulated using bits
* ability to manage memory representation at bit level
* provides wide variety of bit manipulation operators
* pointer pointer pointers- provide direct access to memory
* Flexibility and freedom also requires added responsibility
* use of pointer is problematic and abused
* you can make programming errors that are difficult to trace
* Sometimes because of its wealth of operators and its conciseness, it makes the language difficult to read and follow
* there is an opportunity to write obscure code

Summary:

1. Fast and efficient
2. Portable
3. Function rich libraries
4. Modularity
5. Easy to extend
6. Variety of data types and powerful Operators