CS102 Beginning Programming with C++

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Quiz #1

#1. A bitset is a container type defined in the STL (Standard Template Library). The size of a bitset is fixed at compile time just like an array. Additionally, each element of a bitset may be accessed in the same way as an array. However, unlike an array, the size of each element of a bitset is one bit. A bitset can be created with no arguments or with an unsigned long number. When created with a number, the number will be converted to binary and then inserted into the bitset.

#include<bitset> //must include this preprocessor directive when using bitsets

//Create bitset with 8 elements initialized with the number 9

Bitset<8> bs ((long) 9); //Nine will be converted to binary and inserted in bitset

Cout << bs << endl; //This will print the binary number 9 to the screen 00001001

#2. A run-time error is an error that manifests it’s self while the program is running. Run-time errors are usually due to the programmer writing sloppy code and not due to syntax errors.

#3. Object orientated programming differs from procedural programming by the OOP code being written in a much more modular way. OOP uses classes which represent objects. Just as in the real world, these objects perform various functions (input, output, validation, calculation, display). The cool thing about OOP is that the details of the class are hidden from the user of the class (encapsulated). To use a well written class, one just needs to know how to instantiate an object and how to use the member functions. Also, some classes can be extended to meet the needs of your specific project. Well written classes can be part of a programmer’s library and used in code when the specific task that the class performs is needed. This helps save coding time. C++ is an object oriented language. JAVA is a fully object orientated computer language.