CSCI 1300

Constructors, Initializer list
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Please use the github link for the programing examples and slides.
https://github.com/rahul-aedula95/CSCI-1300

Constructors

- Member functions which help us initialize variables (or data members).
- Has to have the same name of the class
- NO return type
- Constructors can also be overloaded.
- We will be looking at two major type of constructors although there is third one
  - Default constructor
  - Parameterized constructor
  - copy constructor (we will discuss this some other time)

Default constructor

- check example1 in out github page under week 6
- This has only the class name and no parameters.
- Generally used to initialize some general variables.
- syntax: className();
- Even if we do not define any constructor explicitly, the compiler will automatically provide a default constructor implicitly.
  - However these values might be set to random garbage values.
  - Only strings are consistent.

Parameterized constructors

- check example2 in out github page under week 6
- This has class names and a few parameters
- Used to dynamically set variable values.
- When an object is declared in a parameterized constructor, the initial values have to be passed as arguments to the constructor function.
- The normal way of object declaration may not work. The constructors can be called explicitly or implicitly.
- It is used to overload constructors.

Separate compilation

- check example3 in out github page under week 6
- Hard to write code on the same file
- Larger projects require multiple people working on different parts of the projects
- We write headers which contain different parts of the file.
- We then compile them together all at once.

Initializer list (used in nesting objects)

- check example4 in out github page under week 6
- In some scenarios we are required to use objects from another class.
- These classes may not all have default constructors and might have only parameterized constructors.
- We will use the initializer list to achieve parameterized call

Exercises

1. Write a program to input student name, sid, item type (assignment or quiz), item marks (marks obtained in that item). This must be done in a menu
2. In the same program write a class to maintain all of these objects in a separate database.