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CS 202
Program 3

Design changes

During the implementation program three, I tried to think about the design while programming. Even Though it was given to us within the homework assignment. I have implemented way more functionality then needed to experience the power Dynamic binding and operator overloading. It is truly marvelous.

Surprisingly, my design didn't change at all during the implementation of third program. In my design, I had three classes with "Has a" relationship and five "Is a" relationship. I stuck with my design for the first time this term. I think I finally get the inheritance and how it works. Even though my design is good, If had time I would have changed some aspects. Overall the design is good compare when I start design.

strategy approach

I have given a lot of thought to the strategy and algorithm of implementing the Category class which is a type of applications. Even though I no functions that requires run time type identification. I used a lot of dynamic cast function however, to find the exact type each time I wanted to add and display. This is obviously a design flow. If I had time I would have each category store its time so we can minimize the use of dynamic cast function. The abstract base class I has five virtual function most of these function have their own implementation, unlike the program 2 most function are wrappers for the recursive version in the abstract base class. I would have implemented more classes and more functions but time is tight. I had to wrap up what I got to submit. This is difficult for me because I tend to delay my self from finish early to make the program perfect.

possible changes

In the program, I used two kinds of data structures. I have Implemented a red black tree and Linear linked list. I think it prefect for this type of program I can think of anything better. However, the functionality that the program has is very minimal. If I were to implement this program for fun or work, I would have increased efficiency by making function that requires operations. I would have added some more classes to like api and phones program retriever. I would assmenty make the program to an actual application. But , alas this is but a homework and time is very tight especially in quarter system.

GDB

In this assignment, I have used GDB respectively, mostly to find segmentation faults. However, this time I learn more than just that. I have learned the shortcuts. That would suffice my needs as a programmer. I have been using GDB for a quite some time now. Writing the whole statement like "break main" is just too tiring and overwhelming. Plus, writing the statement

wrong will only make the programmer frustrated. So, I decided to learn the shortcuts to improve my skills as a programmer.

GDB helped me find whether my functions return the expected values while testing my code. I would have taken more time trying to find my errors, but thanks to GDB it reduced that by half. This would mean one thing that GDB is a tool that would relieve you many back-end errors or functions, which return nothing. Beginner programmers will find this tool essential in their learning process. This will show that the inner process of the data. I still use GDB in every program I implement to succeed in making my programs in the future and free from memory leaks and errors.

I will still continue to use it and inform others about it, because of how amazing this tool is. The programmer cannot miss using this tool in their process of making a program. I think GDB will help even with the most complex program. I will tell my fellow programmers to use this tool, because of its usefulness.