CS3201: OBJECT ORIENTED PROGRAMMING LABORATORY

Topic: Pointers, Constructors, Destructors, Classes and Objects

Date: 01/04/2024

SPOT QUESTION

1. Develop a program that simulates a simplistic Pokemon type battle between two characters in a game. Each character has attributes such as health points (HP), attack power (AP) and Defence Power (DP). The program should define a class called "Character" to represent each character. The Character class should have attributes for HP, AP and DP, and it should include a function called "battle()" that determines the winner based on their attributes.

   The battle function works by starting with Character 1, and subtracting (AP of Character 1 - DP of Character 2) from Character 2's HP. Then Character 2's AP is used to subtract Character 1's HP by (AP of Character 2 - DP of Character 1). This process goes on till either Character 1 or Character 2's HP goes down to 0, at which stage the winner is decided and displayed.

2. (**EXTRA CREDIT**) You are creating a record of patients for a hospital. Create a dynamic program which allows the administrator to add a new record, edit a record, and delete a record, whenever they want. Your program must employ the following failsafe mechanism-

   Verify whether the admin really wants to delete the given record. Only if they confirm, should the record be deleted.

   After doing this, do the following-

   (a) Edit the program to include the "parent" object, which is linked to every patient. Each patient should have two entries of this object, and it can be set to NULL in case the patient does not have that parent.
   (b) Extract from the data those people who are siblings / half-siblings.
   (c) Include a new table for records of all the doctors in the hospital. Have fields such as designation, speciality, age, sex, patients names (array of patients), etc. Employ the following failsafe mechanism-

   Each patient can have atmost one doctor, while one doctor can have multiple patients