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CS 162 - Lab 2

Requirements

2 Players
User will indicate the number of rounds
User will specify dice for each player
       Number of sides
       Loaded or Not
Classes:

- Die
    - Inheritance
    - "Has-a" relationship
- Loaded Die – Must derive from Die
    - "Is-a" relationship
- Game
    - Type of dice for player
    - Number of rounds
   - Score
    - "Has-a" relationship

Specifics

You should clearly indicate which nouns are classes

Class Die	Class LoadedDice	Class Game
Data: LoadedDice loadDice; int diceSide; int diceNumbers;	Data: int loadSide; int loadNum;	Data: Dice dice; int rounds; int score; int playerTurn;

Members:
   int setDieSize()
   int getDieSide()
   int dieNumbers()
	Members:
	   int getLoadSide()
	   int LoadNum()
		Members:
		   char diceType();
		   int getTurn();
		   void setTurn();
		   int getRounds();
		   void setScore();

Actions Required

Prompt the user for the amount of sides for the non-loaded die.
Prompt the user for the amount of sides for the loaded die.
Prompt the user for the amount of games that they want to play.

Hierarchy Diagram
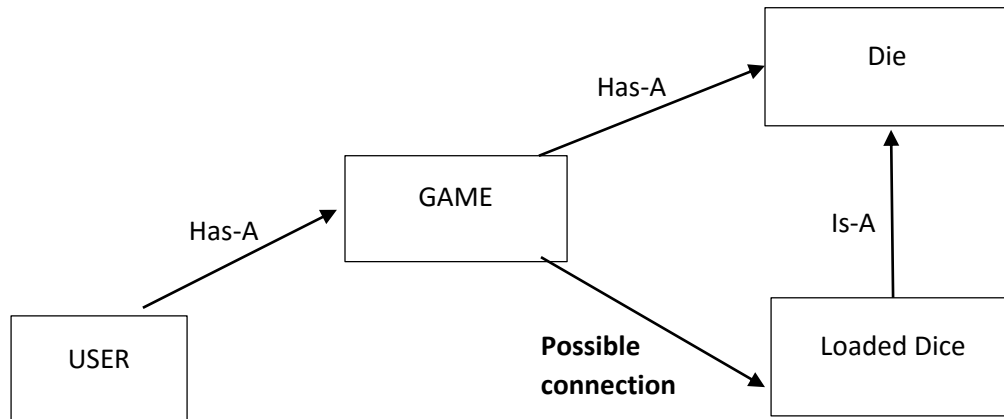
Potential Class

Test Plan

Options available to user:

The user of dice wars will have a few options in their weapon arsenal. First off, the user will have the ability to select whether the dice for each player is loaded or not. Along with being loaded, the user will also determine how many sides the dice will have. Lastly, the user will choose how many rounds they shall play.

An example of this:

The user has a loaded die for four sides and the second player has a non-loaded die that has 12 sides. The loaded die has numbers 4-8 and is to roll high 60% of the time.

Outline

Game
The game class will call the Die to get the amount of sides and numbers. Since LoadedDice will be part of inheritance for Die I think that game will call the information from LoadedDice through Die.

Die
This class will hold all the dice information for both die and Loaded die because the die can be loaded or not.

LoadedDice
This will be an inheritance of the Die Class.

Class LoadedDice

int loadSide;

int loadNum;

int getLoadSide()

int LoadNum()

Has - a

Class Dice

LoadedDice loadDice;

int diceSide;

int diceNumbers;

int setDieSize()

int getDieSide()

int dieNumbers()

void diceType();

Has - a

Class Game

Dice dice;

int rounds;

int score;

int playerTurn;

char diceType();

int getTurn();

void setTurn();

int getRounds();

void setScore();

int getScore()

void play();

Get

Get