BBM 104 Introduction to Programming Labratory II

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Subject : Inheritence and Polimorphism
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Problem Definition

In this experiment, I have been expected to develop a non graphical version of the classic Monopoly game. Main focus point of this experiment is to use Polymorphism and Inhertance.

First of all I create classes for objects (Board, Deck, User, Player, Banker, Properties, Property, Land, Company, RailRoad). Then I read inputs and implement objects in Monopoly class. Then I run commands one by one in Monopoly class. After every command I print outputs to the output file.

User
- name: String
- money: int
- User(String)
- getMoney():int
- getName():String
- increaseMoney(int):void
- decreaseMoney(int):void
- move(int):void
- getPosition():int
- getJailCount():int
- isInJail():Boolean
- increaseJailCount():void
- moveToJail():void
- getTotalRailRoadNumber():int
- moveToGo():void
- moveToLeicester():void
- move3Back():void
- increaseRailRoadNumber():void

Board
- types: String[]
- Board()
- getType(int):String
- setSquares():void

Properties
- Properties(String)
- setProperties(String):void
- insertSequentially(Property):void
- getProperty(int):Property

Main
- Main()
- main(String[]):void

Monopoly
- Monopoly(String,String)
- play(String,String):void
- doSquareAction(int,User,User):String
- getOwnedProperties(String):String
- calculateRailRoadRent(int):int
- calculateLandRent(int):int
- calculateCompanyRent(int):int

-board
-user2
-user1
-banker
-properties
-properties
-deck

Property
- id: int
- name: String
- cost: int
- owner: String
- Property(int,String,int)
- getCost():int
- getId():int
- getName():String
- getOwner():String
- setOwner(String):void

Player
- position: int
- numberOfTotalRailRoads: int
- jailCount: int
- inJail: Boolean
- Player(String)
- getJailCount():int
- isInJail():Boolean
- increaseJailCount():void
- move(int):void
- moveToGo():void
- moveToJail():void
- moveToLeicester():void
- move3Back():void
- getPosition():int
- getTotalRailRoadNumber():int
- increaseRailRoadNumber():void

Deck
- commChestCards: ArrayList<String>
- chanceCards: ArrayList<String>
- currentCommChestCardPosition: int
- currentChanceCardPosition: int
- Deck(String)
- setDeck(String):void
- getCommChestCard():String
- getChanceCard():String

Land
- Land(int,String,int)

RailRoad
- RailRoad(int,String,int)

Company
- Company(int,String,int)

Banker
- Banker(String)