CaseStudy

- OOP Project case study

Overview

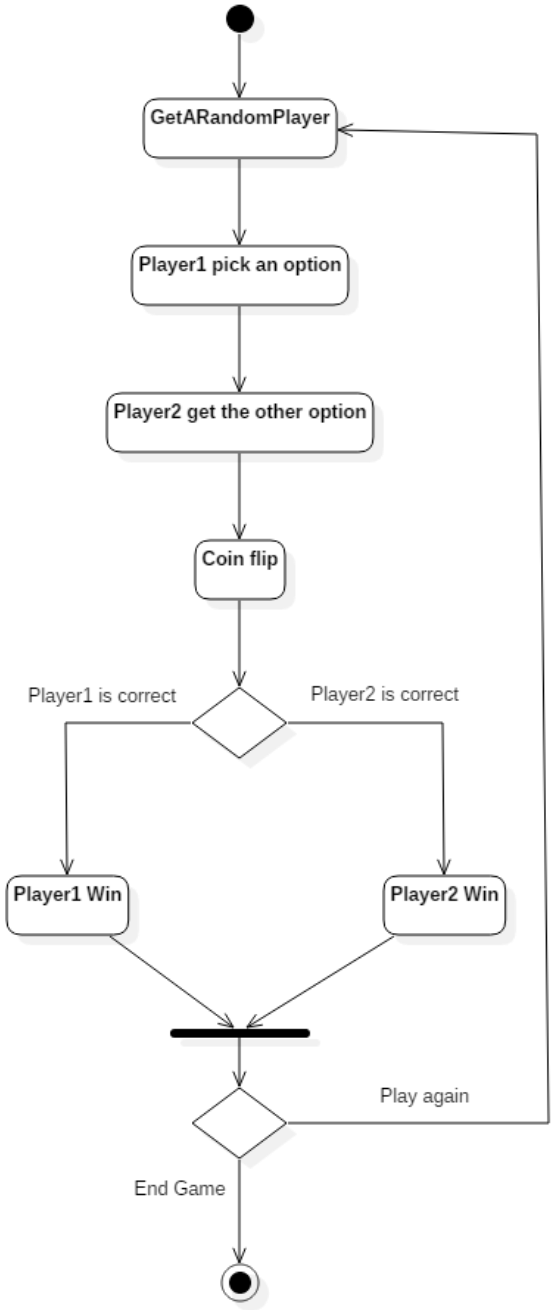
Gambling Game

- Coin flip:
  - Two players
  - A coin with head and tail
  - A random player out of the two picks an option
  - The other gets the other option
  - The coin is flipped
  - Correct guess wins
- Design an OOP solution and Java implementation.

Solution

Player
- id: int - name: string - option: int
+ Player() + Player(ID, name) + getID() + getName() + pick(opt)

Coin
- state: int
+ Coin() + Coin(state) + getState() + getStateName() + flip()



Gambling Game

- Dice Roll:
  - Two players
  - A dice with values from 1 - 6
  - A random player picks an option
  - The other player picks
  - The dice is rolled
  - Correct guess wins
- Solution?

Gambling Game

- Advanced Dice Roll:
  - Multiple players (maximum 6, minimum 2)
  - A dice with values from 1 - 6
  - Players pick option in a specific order (can be random)
  - The dice is rolled
  - Best guess wins (closest to the dice value!)
- Solution?

Gambling Game

- General gambling game:
  - Multiple players (maximum N, minimum 2)
  - A Gamble Object with values from 1 - N
  - Players pick option in a specific order (can be random)
  - The Gamble Object is rolled
  - Winner scenario (correct guess, best guess, etc.)
- Solution?

Gambling Game

- General gambling game with AI:
  - N players: X human player and N-X AI players.
  - A Gamble Object with values from 1 - N
  - Players pick option in a specific order (can be random)
  - AIs pick option
  - The Gamble Object is rolled
  - Winner scenario (correct guess, best guess, etc.)
- Solution?

Teamwork

- Identify general structure (class diagram, activity diagram)
- Work as a smaller group for individual class
- Merge and test