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GAME OF GOOSE

Certification excercise

GREEN BELT OO Certification

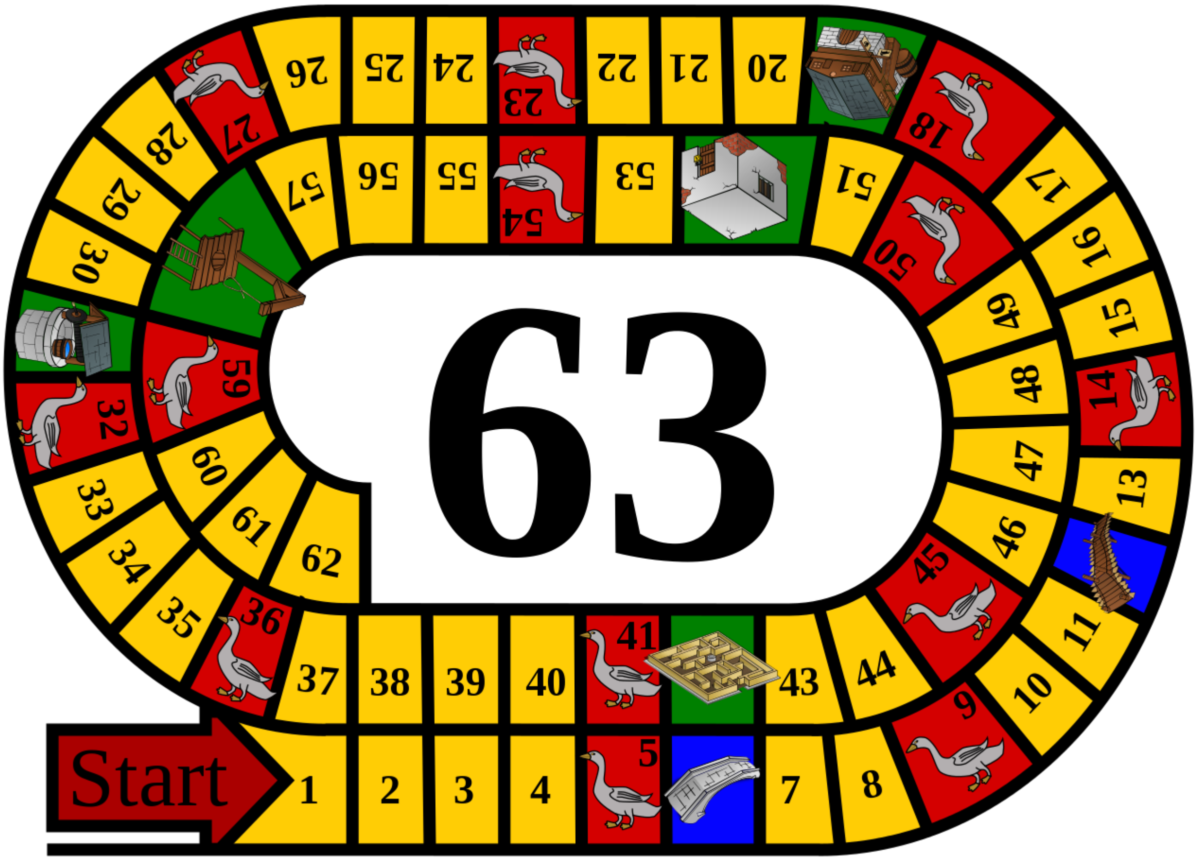
Introduction

The purpose of this excercise is to create an objectmodel and OO command-line program to implement the game of goose.

The game has to support the creation of 4 players whereby each player controls his piece.

Game of the Goose

The Game Of the Goose is a board game where two or more players move pieces arount a track by rolling two dice. The aim of the game is to reach square number sixty-three before any other players, while avoiding obstacles such as the inn, the Bridge and Death.



There are 63 numbered spaces in the Game Of Goose.

The spaces

The Game of Goose has 63 spaces. Some spaces are “static”, but lots of spaces have a special meaning. There are also those spaces with a Goose on them. Lets go in detail here.

Special Spaces:

Number	Name	Meaning
6	Bridge	Go to 12
19	Inn	Skip one turn
31	Well	If you come here, you need to wait until another player arrives. The one who was there first can continue playing
42	Maze	Go back to 39
52	Prison	Skip 3 turns
58	Death	Go back to start
63	End	The first player who arrives here, wins the game

Spaces with a Goose

Spaces with a goose on them are the following:

- 5
- 9
- 14
- 18
- 23
- 27
- 32
- 36
- 41
- 45
- 50
- 54
- 59

If you land on a space with a goose, you can move your piece forward with the number of eyes on the dice you have rolled. Your piece cannot stand on a space with a goose.

Exceptions

- If you throw 5+4 on the first throw, you go to space 26
- If you throw 6+3 on the first throw, you go to space 53

Hitting 63

When reaching the end of the Game Of Goose, you need to hit space 63 **exactly.** If you have thrown to much, you need to move your piece in the reverse order over the board. If you hit a Goose “in reverse”, the normal rule applies and you need to add the number you have thrown with the dice.

For Example:

You are on space 57 and you throw 5+5. Your piece does this: 58, 59, 60, 61, 62, 63, 62, 61, 60, 59 (this is a Goose) => go to 49.

Note that this rule greatly increases the odds that a player hits death (58).

Certification Excercise

Build a command-line application which simulates the Game Of Goose.

For each turn, an enter should be requested. The command-line application should return something like this:

```
     PIECE 1            PIECE 2          PIECE 3          PIECE 4

Turn 1

       1+3: S4          4+2: S6->S12     3+5: S8          5+4: S26

[Press ENTER to play Turn 2]

....

Turn 20

      5+3: S58->Start   4+4: S63         / :S31           5+3: S45->S53

                        WINNER!!!

[Press ENTER to FINISH GAME]
```

Solution approach

From reading the problem and use case information, we can identify at least the following four general elements to our application.

- The game being simulated. This includes the various elements of the game: the board, the spaces, the pieces and the turns.
- An overall control component which processes the game

Sample execution

GooseGame.start(4)

GooseGame.start([NumberOfPieces])