```
Player
-   userColor: String
-   victoryPoints: int
-   resources: List<ResourceType>

+   Player (userColor: String)
+   takeTurn (): int: move
-   rollDice(): int
-   collectResources(roll: int)
-   chooseMove()
-   canBuildRoad(): boolean
-   canBuildSettlement(): boolean
-   canBuildCity(): boolean
-   options(): int
-   spend(option: int)
+   getVictoryPoints (): int
+   addVictoryPoints (point: int)
```

```
Board
-   tiles: Tile[]
-   vertices: Map <int, Settlement>
-   edges: Map <int, Road>

+   Board()
+   placeSettlement (player: Player, vertex: int)
+   placeRoad (player: Player, edge: int)
-   vertexOpen (vertex: int): boolean
-   edgeOpen(edge: int): boolean
+   getTile(): Tile
+   getVertex(): int
+   getEdge(): int
```

```
Tile
-   resource: ResourceType
-   number: int
-   adjacentVerticies: int[6]

+   Tile (resource: ResourceType, number: int)
+   getVerticies(): int[]
+   getAdjacentTiles(vertex: int): List<Tile>
```

Settlement
- owner: Player - level: String - vertex: int

+ Settlement (owner: Player, vertex: int)
+ upgrade ()
+ getOwner()
+ getLevel()

Road
- owner: Player - edge: int
+ Road (owner: Player, edge: int) + getOwner()

Catan
- player: Player[] - board:Board - currectTurn:int - maxRounds: int
+ Catan() + play() - checkWin(): boolean - displayWinner() - playRound() - startGame()