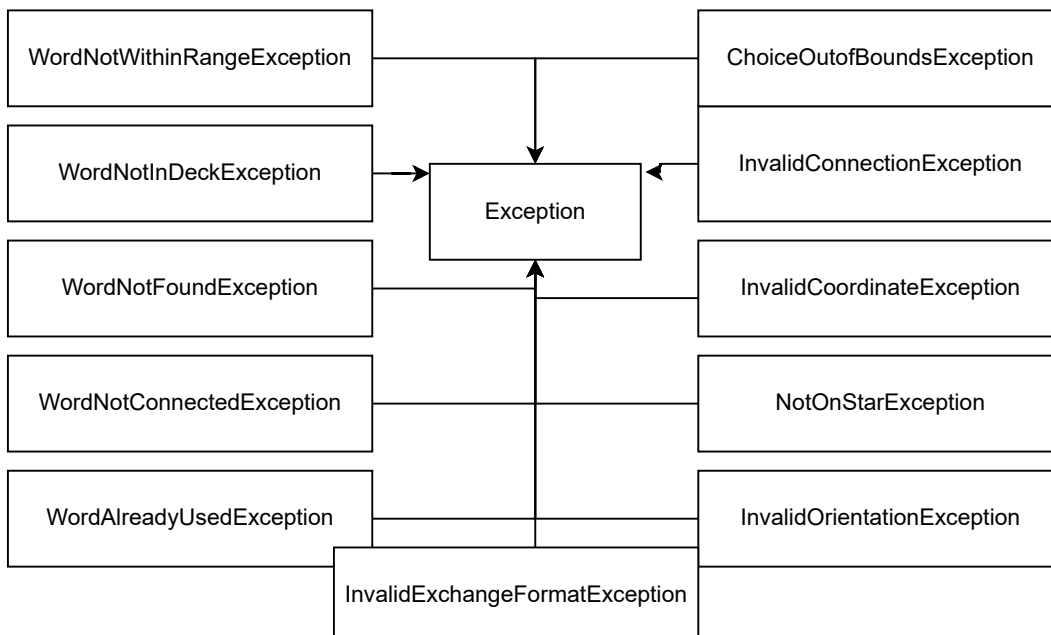## Scrabble

- input: Scanner

+ intro(): void
- getInput(): String
+ placeWord(String, String, Coordinate, Player, Board): void
+ toStringArray(String): ArrayList<String>
+ getStartFromLetter(String, String, String, Coordinate, Board): Coordinate
+ oppositeOrientation(String): String
+ playerMenu(Player, Board): void
+ exchangePieces(Player, Bag): void
+ getHighScore(): int
+ writeHighScore(Player): void
+ playWord(Player, Board, Bag, boolean): void
+ turn(Player, Board, Bag, boolean): void
+ generateplayer(Board, Bag, int): Player
+ createPlayerOrder(ArrayList<Player>, Bag): ArrayList<Player>
+ isTie(ArrayList<Player>): boolean
+ getWinner(ArrayList<Player>): Player
+ getPlayerAmount(): int
+ main(String[]): void

Coordinate

- x: int
- y: int

+ getX(): int
+ setX(int): int
+ getY(): int
+ setY(int): void
+ toString(): String
+ equals(Coordinate): boolean
+ translateString(String): Coordinate
+ clone(): Tile

Player

- playerID: int
- name: String
- points: int
- deck: ArrayList<Piece>
- passNum: int

+ getName(): String
+ setName(String): void
+ getPoints(): int
+ setPoints(int): void
+ getDeck(): ArrayList<Piece>
+ setDeck(ArrayList<Piece>): void
+ getPlayerID(): int
+ setPlayerID(int): void
+ getPassNum(): int
+ setPassNum(int): void
+ clone(): Player
+ deckToString(): String
+ drawDeck(Board, Bag): void

Tile

- location: Coordinate
- type: String
- piece: Piece
- ANSI_YELLOW: String
- ANSI_RESET: String

+ getLocation(): Coordinate
+ setLocation(Coordinate): void
+ getType(): String
+ setType(String): void
+ getPiece(): Piece
+ setPiece(Piece): void
+ toString(): String

WordNotWithinRangeException

WordNotInDeckException

WordNotFoundException

WordNotConnectedException

WordAlreadyUsedException

Exception

ChoiceOutofBoundsException

InvalidConnectionException

InvalidCoordinateException

NotOnStarException

InvalidOrientationException

InvalidExchangeFormatException

Validator

- wordsUsed: ArrayList<String>

+ withinBoard(String, String, Coordinate, Player): boolean
+ wordNotUsed(String): boolean
+ validateInput(String, String, Coordinate, Player, Board, boolean): boolean
+ isOnStar(String, String, Coordinate, Board): boolean
+ validateLetterConnection(String, Coordinate, String, Player, Board): boolean
+ validateWordConnection(String, String, Coordinate, Player, Board, boolean): boolean
+ validLetter(String, String, Coordinate, Player, Board): Integer
+ findConnections(String, Coordinate, String, Player, Board): String[]
+ isWord(String): boolean

Scorer

+ method tallyWord(String, String, Coordinate, Board, Player, Bag): int
+ method tallyPlay(String, Coordinate, String, Player, Board, Bag): int

Bag

- values: HashMap<String, Integer>
- contents: ArrayList<Piece> contents

+ getContents(): ArrayList<Piece>
+ setContents(ArrayList<Piece>): void
+ getValues(): HashMap<String, Integer>
+ setValues(HashMap<String, Integer>): void
+ generateValues(): void
+ generateContents(): void

Board

- gameBoard: Tile[][]

+ generateBoard(): void
+ getTile(): Tile
+ toString(): String

Piece

- letter: String

+ getLetter(): String
+ setLetter(String): void
+ toString(): String
+ equals(Piece): boolean
+ clone(): Piece