BBM104 - Project Assignment 3 Checklist

Task	Status
Used JavaFx	Completed
Visually there is sky and earth	Completed
Drill machine has fuel, storage, and money bank	Completed
Machine attributes can be seen in screen	Completed
Fuel decreases with movement and with time	Completed
Money and haul increase with every collected valuable	Completed
Drill machine changes appearances depending on where it is facing	Completed
Machine is controlled with arrow keys	Completed
Machine cannot drill upwards	Completed
There is at least 3 types of valuable mineral and gems	Completed
Valuable mineral and gems each have different weights and values	Completed
Top of the earth has grass	Completed
There are boulders in the borders (except at the top)	Completed
Boulders cannot be drilled into	Completed
There are lava blocks	Completed
Lava destroys the drill and causes game over (red)	Completed
Running out of fuel causes game over with collected money (green)	Completed
There is gravity	Completed
There is more soil than other elements	Completed
Attention fuel low	Extra added
Downward scrolling map	Extra added
There is a box in the top left for attributes.	Extra added

Demo Video Link	https://youtu.be/2JrNxOQBsLk

UML Class Diagram

Main
- game : Game

+ main(args : String[]) : void
+ start(primaryStage : Stage) : void

Game
- drill : Drill
- map : Tile[][]
- gc : GraphicsContext
- images: HashMap<String,Image>
- gemValues : HashMap<Tile.Type, Integer>
- gemWeights : HashMap<Tile.Type, Double>
- rand : Random
- lastTime : long
- cameraY : int

+ getMap() : Tile[][]
+ getDrill() : Drill
+ getImage(key : String) : Image
+ getTileAt(x : int, y : int) : Tile
+ removeTileAt(x : int, y : int) : void
+ initialize() : void
+ loadImages() : void
+ expandMapDown() : void
+ generateRandomTileType (rand : Random) : Tile.Type
+ initializeGemValues() : void
+ initializeGemWeights() : void
+ updateCamera() : void
+ update(counterTime : double) : void
+ draw(gc : GraphicsContext) : void
+ start() : void

Tile
- type : Type
- x : int
- y : int
- image : Image

+ getX() : int
+ getY() : int
+ getImage() : Image
+ getType() : Type
+ Type : {SOIL, BOULDER, LAVA, GEM_AMAZONITE, GEM_EMERALD, GEM_RUBY, GEM_PLATINUM, EMPTY}

Drill
- x : int
- y : int
- fuel : double
- collectedGems : int
- isAlive : boolean
- hitLava : boolean
- currentImage : Image
- game : Game
- isMovingUp : boolean
- gravityCounter : double
- gravityInterval : double
- gravityDelay : double
- gravityDelayCounter : double
- currentLoad : double

+ getHitLava() : boolean
+ getX() : int
+ getY() : int
+ getFuel() : double
+ getCollectedGems() : int
+ getCurrentLoad() : double
+ setAlive(alive : boolean) : void
+ getAlive() : boolean
+ getCurrentImage() : Image
+ consumeFuel(isMoving : boolean) : void
+ collectGem(gemType : Tile.Type) : void
+ gravityRules(counterTime : double) : void
+ mine() : void
- isPassable(type : Tile.Type) : boolean
- isOnGround() : boolean
- isEmptyOnRight() : boolean
- isEmptyOnLeft() : boolean
+ moveLeft() : void
+ moveRight() : void
+ moveUp() : void
+ moveDown() : void