

READ-ME

Classes and interfaces :

Game objects-

- Spaceship- the player spaceship, a paddle that can shoot balls and kill the alien.
- Alien- an alien formation (create by blocks) that can move and shoot balls.
- Block- a block, use to crate shields and aliens.
- Ball- a ball, use in the game for shooting balls.
- Background- use to create a background to the game.
- BlockFill- object to fill the color of a block.
- BlockImage- object to fill a block with image.
- Collidable- an interface that will be used by things that we can collided with.
- DrawBlock- an interface to draw the block.
- HitNotifier- an interface to to notify that objects being hit.
- LevelIndicator- use to show the level name.
- LivesIndicator- use to show the number of lives.
- ScoreIndicator- use to show the number of score.
- Sprite- an interface use to draw objects and notify all time passed.

Geometry –

- Drawable – an interface use to draw objects.
- Line- object to describe a line.
- Point- object to describe a point by x and y coordinate.
- Rectangle- object to describe a rectangle, build by upper left point, height and width.

IO –

- ImageParser- use to get the image.

Observer –

- BallRemover- remove balls from the game.
- BlockRemover- remove blocks from the game.
- ScoreTrackingListener- in case of hit event add 100 points to the player.
- HitListner- an intarfcse call each time the being hit object is hit.

Utils –

- CollisionInfo- holds information about a point where the collision occur, and the collidable object.
- Counter- an object to count things.
- HighScoreTable- a table to show the player score.
- ScoreInfo- An object do describe the score.
- Velocity- an object to describe the change the position of x and y.

Animation–

- Animation- an interface to describe the animation.
- AnimationRunner- take an amination object and run it.
- CountdownAnimation- the countdown animation.
- EndScreen- the end screen.
- HighScoreAnimation- the high score.
- KeyPressStoppableAmimation- an object that stop the animation by the key he get.
- Menu- an interface to describe a menu.
- MenuAnimation- the menu animation.
- Option- an object to describe an option in the menu.
- PauseScreen- an object that pause the screen animation.
- Task- an interface that run options in the menu.

Game-

- Constant- a class to describe const numbers.
- GameEnvironment- class to hold collections of many objects.
- GameFlow- run the game until the player lose.
- GameLevel- a class to create a new game. Charge to initialize and run the game. (create the shields).
- SpriteCollection- holds list of sprite objects.

Ass7game- run the game.

Implementation description:

- Aliens Formation- created in the class "Alien" by list that holds blocks (alien). The aliens move using the function "timePassed" that change the move of the alien formation.
- Shoots by the alien- created in the class "Alien" in the "timePassed" function, every 0.5 seconds a ball shoot from a random alien.
- The shields - created in the "GameLevel" class in "getShields" Function. Create a list of blocks that is initialized and added to the game.
- Shots by the player- created in the "Spaceship" object, in the "timePassed" function. Each time the player press space key, the function shot a ball (give him a velocity upwards) from the middle of the spaceship.