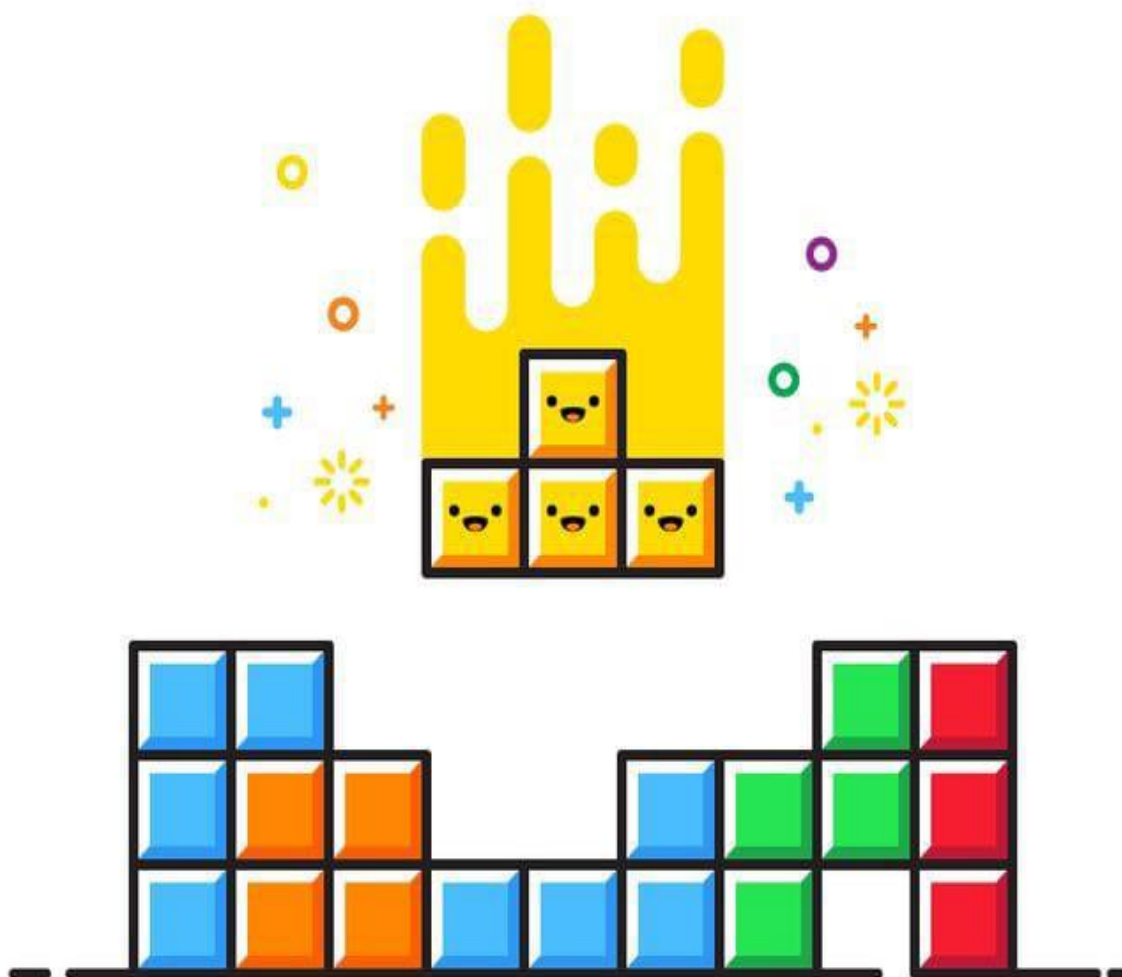


---

# Java project : Tetris

---



## Banda Team Names :

Leader : Mahmoud Esmat Abdallah Fahmy **20812020100102**

1. Aya Shawky Godah Ibrahim

**20812020201943**

2. Zahraa Hassan Mohamed

**20812020201958**

3. Sara Mamdoh Abdelfatah Mohamed

**20812020201075**

4. Salma Sameh Hassan Mohamed Hassan

**20812020201201**

5. Samaa Eltohmy Ahmed

**20812020200768**

6. Sanaa Swilam Taha Ibrahim

**20812020201070**

7. Mohamed Ayman Mohamed Fathy

**20812020100052**

8. Mohamed Gamal Mohamed Abdallah Khedr

**20812020101064**

9. Nayerah Hazem Mohamed Tag Neshyon

**20812020200650**

10. Youmna Yasser Mohamed Mohamed

**20812020200615**

**Project idea :** the game is consists of rectangles forming certain shapes falling down and the player tries to form lines using said shapes and when the line completed it is deleted , and the score will be 50 for every row that is deleted when the player increases the speed by pressing the down button , every press on the down button, the shape descends one step and every press on the down button it increase the score by 1 and the player can stop the game and resume it and once the player completes a column the game ends and the total score is displayed and then the player can star a new game or just end the game.

## import & package

```
package teamproject;

import java.io.IOException;
import java.util.ArrayList;

import javafx.animation.Animation;
import javafx.animation.KeyFrame;
import javafx.animation.Timeline;
import javafx.application.Application;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.ComboBox;
import javafx.scene.control.Label;
import javafx.scene.image.Image;
import javafx.scene.layout.*;
import javafx.scene.paint.Color;
import javafx.scene.shape.Rectangle;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.scene.text.Text;
import javafx.stage.Stage;
import javafx.util.Duration;
import javafx.scene.media.AudioClip;
import javafx.scene.paint.Color;
import javafx.scene.image.ImageView;
import javafx.scene.layout.StackPane;
import javafx.scene.shape.Line;
import javafx.scene.layout.Pane;
```

# the UML

```
Tetris
  start(Stage): void ↑Application
  moveOnKeyPress(Form): void
  MoveTurn(Form): void
  RemoveRows(Pane): void
  MD(Rectangle): void
  MoveRight(Rectangle): void
  MoveLeft(Rectangle): void
  MoveUp(Rectangle): void
  MD(Form): void
  BlankSpaceA(Form): boolean
  BlankSpaceB(Form): boolean
  BlankSpaceC(Form): boolean
  BlankSpaceD(Form): boolean
  Rotation(Rectangle, int, int): boolean
  main(String[]): void
  MOVE: int = 25
  SIZE: int = MOVE
  XMAX: int = SIZE * 16
  YMAX: int = SIZE * 20
  MESH: int[][] = new int[XMAX / SIZE][YMAX / SIZE]
```

```
  f ◦ p1: Pane = new Pane()
  f ◦ p2: Pane = new Pane()
  f ◦ p3: Pane = new Pane()
  f ◦ h: HBox = new HBox(...)
  f ◦ root3: VBox = new VBox(...)
  f ◦ scene: Scene = new Scene(...)
  f ◦ object: Form
  f ◦ nextObj: Form = Controller.makeRect()
  f ◦ score: int = 0
  f ◦ top: int = 0
  f ◦ game: boolean = true
  f ◦ linesNo: int = 0
  f ◦ dur: int = 300
  f ◦ color1: Color
  f ◦ scoretext: Text = new Text(...)
  f ◦ leveltext: Text = new Text(...)
  f ◦ MusicOfftext: Text = new Text(...)
  f ◦ start: Label = new Label(...)
  f ◦ pause: Label = new Label(...)
  f ◦ icon: Image = new Image(...)
  f ◦ isMusicPlaying: boolean
  f ◦ timeline: Timeline
```

```
HomePage
  start(Stage): void ↑Application
  music(boolean): void
  main(String[]): void
  f ◦ btnPlay: Button = new Button(...)
  f ◦ btnSetting: Button = new Button(...)
  f ◦ btnAboutUs: Button = new Button(...)
  f ◦ lblTetris: Label = new Label(...)
  f ◦ imgAndText: VBox = new VBox(...)
  f ◦ buttons: VBox = new VBox(...)
  f ◦ root1: BorderPane = new BorderPane()
  f ◦ image1: Image = new Image(...)
  f ◦ imageView1: ImageView = new ImageView(...)
  f ◦ icon: Image = new Image(...)
  f ◦ MOVE: int = Tetris.MOVE
  f ◦ XMAX: int = Tetris.XMAX
  f ◦ YMAX: int = Tetris.YMAX
  f ◦ scene1: Scene = new Scene(...)
```

```
AboutUs
  start(Stage): void ↑Application
  main(String[]): void
  f ◦ lblEsmat: Label = new Label(...)
  f ◦ lblMuhammed: Label = new Label(...)
  f ◦ lblGamal: Label = new Label(...)
  f ◦ lblSamaa: Label = new Label(...)
  f ◦ lblSanaa: Label = new Label(...)
  f ◦ lblAya: Label = new Label(...)
  f ◦ lblSara: Label = new Label(...)
  f ◦ lblZahraa: Label = new Label(...)
  f ◦ lblSalma: Label = new Label(...)
  f ◦ lblYoumna: Label = new Label(...)
  f ◦ lblNayera: Label = new Label(...)
  f ◦ nameColor: Color = Color.web(...)
  f ◦ lblteamName: Label = new Label(...)
  f ◦ lblver: Label = new Label(...)
  f ◦ line: Line = new Line(...)
  f ◦ image2: Image = new Image(...)
  f ◦ imageView2: ImageView = new ImageView(...)
  f ◦ icon2: Image = new Image(...)
  f ◦ teamandimage: HBox = new HBox(...)
  f ◦ p1: BorderPane = new BorderPane()
  f ◦ names: Pane = new Pane()
  f ◦ root2: VBox = new VBox(...)
  f ◦ scene2: Scene = new Scene(...)
```

```

Settings
  m start(Stage): void ↑Application
  m main(String[]): void
  f ◦ tetris: Tetris = new Tetris()
  f ◦ White: Color = Color.web(...)
  f ◦ Blue: Color = Color.web(...)
  f ◦ GoldenRod: Color = Color.web(...)
  f ◦ off: Button = new Button(...)
  f ◦ on: Button = new Button(...)
  f ◦ gamemode: Label = new Label(...)
  f ◦ theme: Label = new Label(...)
  f ◦ music: Label = new Label(...)
  f ◦ CBGamemode: ComboBox<String> = new ComboBox<>()
  f ◦ CBColors: ComboBox<String> = new ComboBox<>()
  f ◦ icon: Image = new Image(...)
  f ◦ audio: HBox = new HBox(...)
  f ◦ hGamemode: HBox = new HBox(...)
  f ◦ hColorMode: HBox = new HBox(...)
  f ◦ Mode: VBox = new VBox(...)
  f ◦ root: BorderPane = new BorderPane()
  f ◦ t1: Tetris = new Tetris()
  f ◦ scene: Scene = new Scene(...)

```

```

GameOver
  m start(Stage): void ↑Application
  m main(String[]): void
  f ◦ MOVE: int = Tetris.MOVE
  f ◦ XMAX: int = Tetris.XMAX
  f ◦ YMAX: int = Tetris.YMAX
  f ◦ score: int = Tetris.score
  f ◦ image: Image = new Image(...)
  f ◦ imageView: ImageView = new ImageView()
  f ◦ icon: Image = new Image(...)
  f ◦ gameOver: Label = new Label(...)
  f ◦ scoretext: Label = new Label(...)
  f ◦ newGame: Button = new Button(...)
  f ◦ exit: Button = new Button(...)
  f ◦ vBox0: VBox = new VBox(...)
  f ◦ txtscore: StackPane = new StackPane(...)
  f ◦ buttons: HBox = new HBox(...)
  f ◦ root: BorderPane = new BorderPane()
  f ◦ scene: Scene = new Scene(...)

```

```

Controller
  m MoveRight(Form): void
  m MoveLeft(Form): void
  m makeRect(): Form
  f ◦ MOVE: int = Tetris.MOVE
  f ◦ SIZE: int = Tetris.SIZE
  f ◦ XMAX: int = Tetris.XMAX
  f ◦ YMAX: int = Tetris.YMAX
  f ◦ MESH: int[][] = Tetris.MESH

```

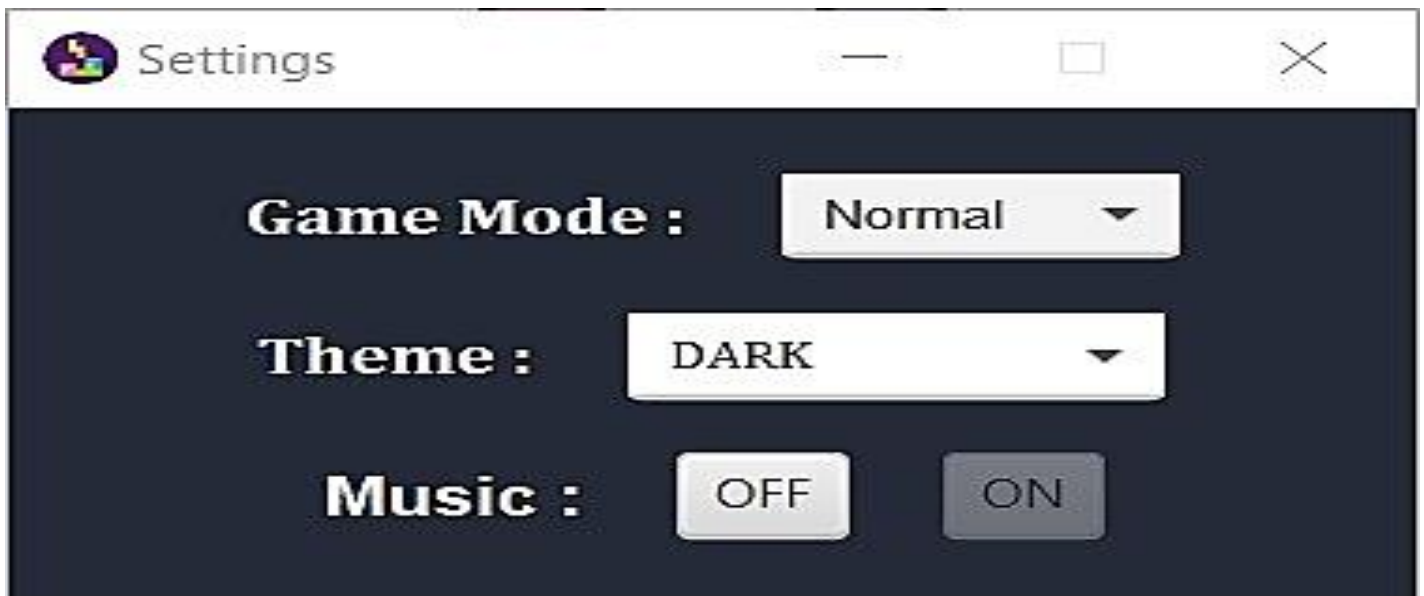
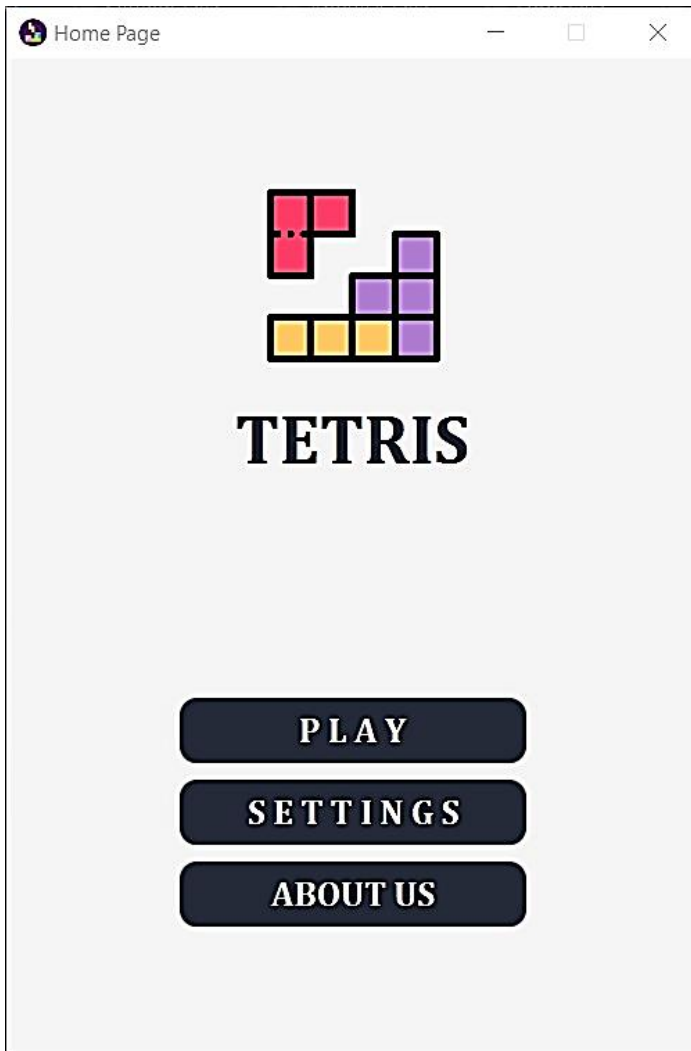
```

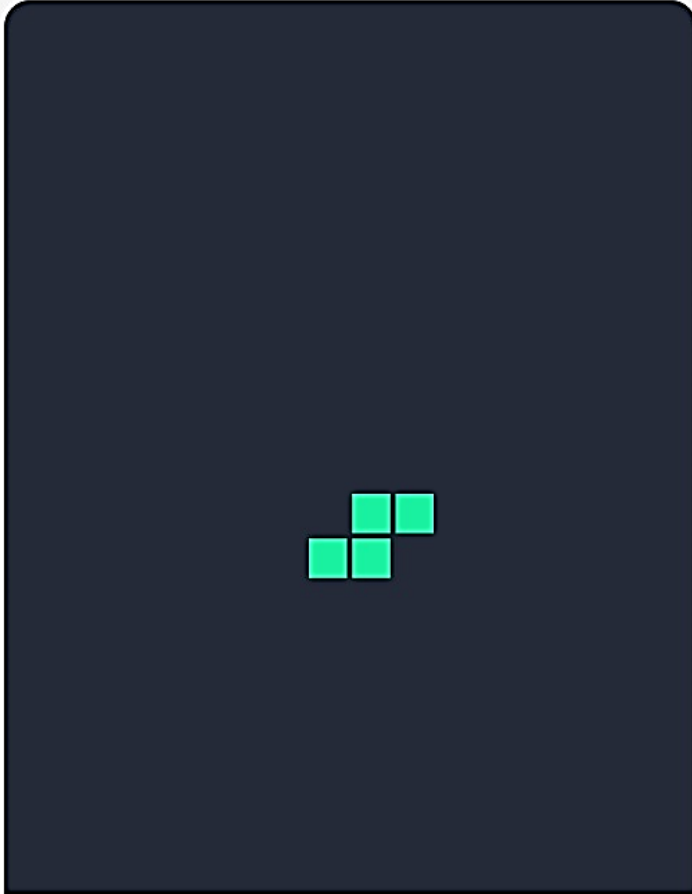
Form
  m Form(Rectangle, Rectangle, Rectangle, Rectangle)
  m Form(Rectangle, Rectangle, Rectangle, Rectangle, String)
  m getName(): String
  m changeForm(): void
  f ◦ a: Rectangle
  f ◦ b: Rectangle
  f ◦ c: Rectangle
  f ◦ d: Rectangle
  f ◦ color: Color
  f ◦ colormain: Color = Color.web(...)
  f ◦ name: String
  f ◦ form: int = 1

```



## The game :





Lines: 0

Score: 0



Press M to Stop The Music



**GAME OVER**

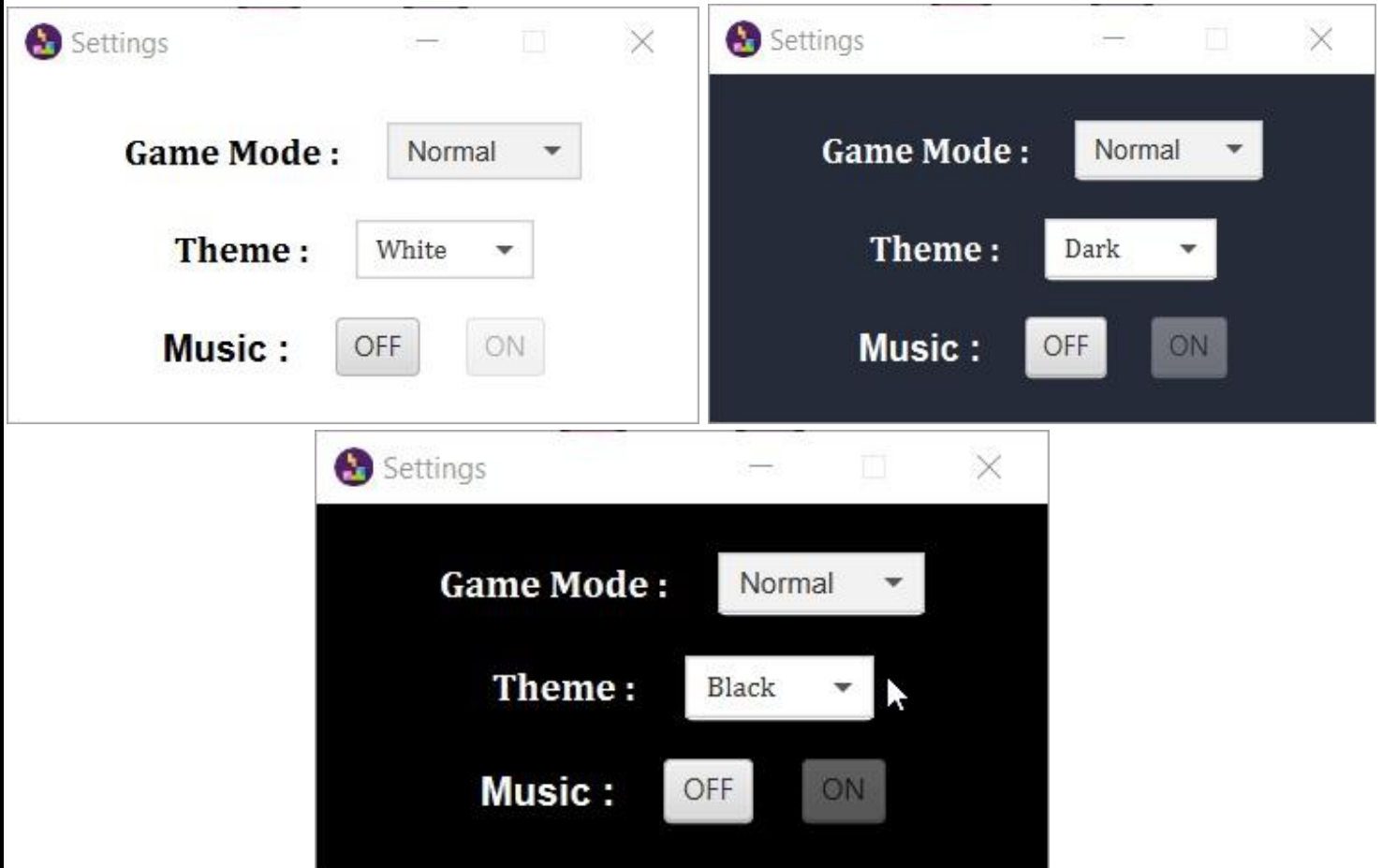
**Score: 167**

New Game

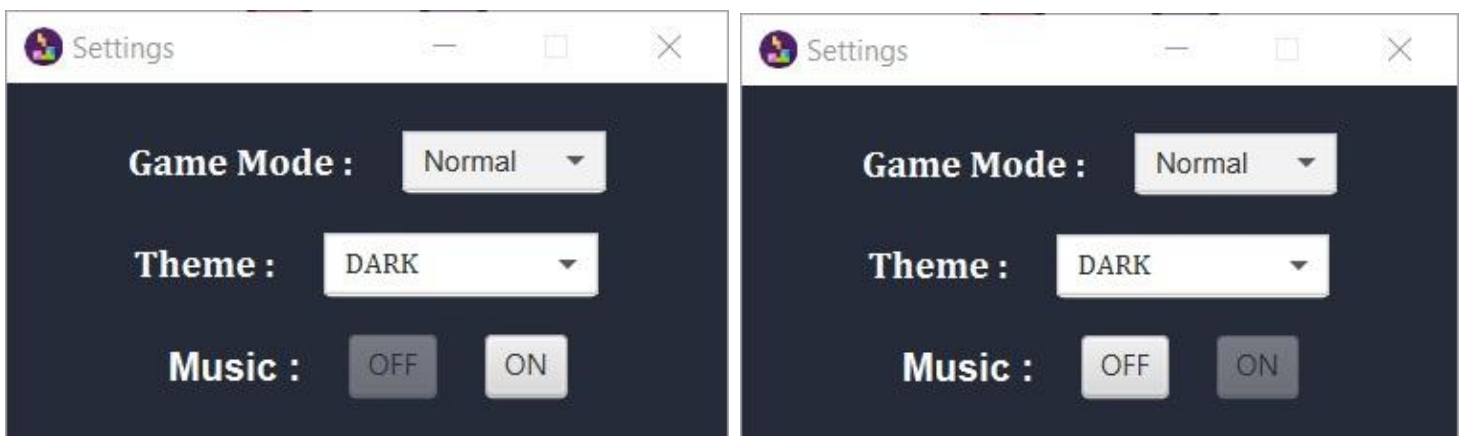
EXIT



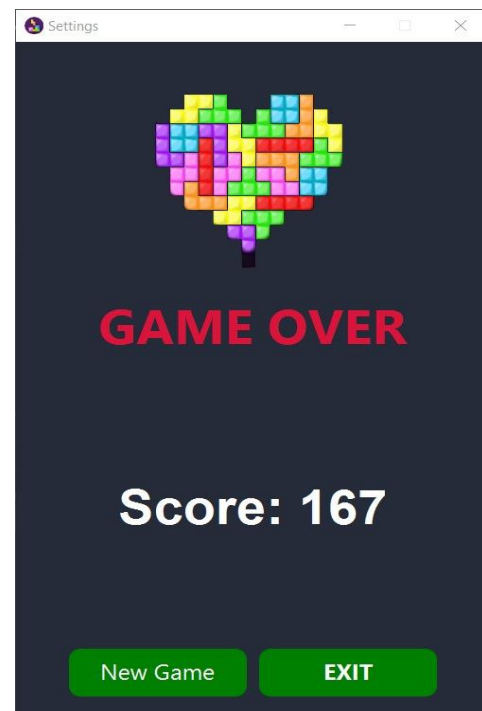
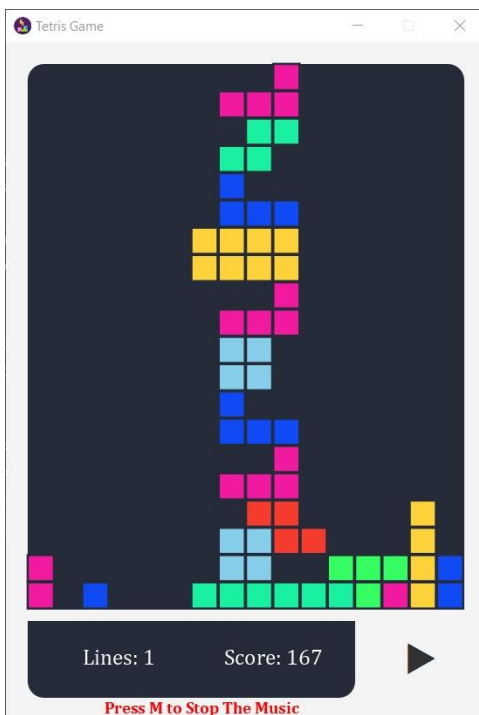
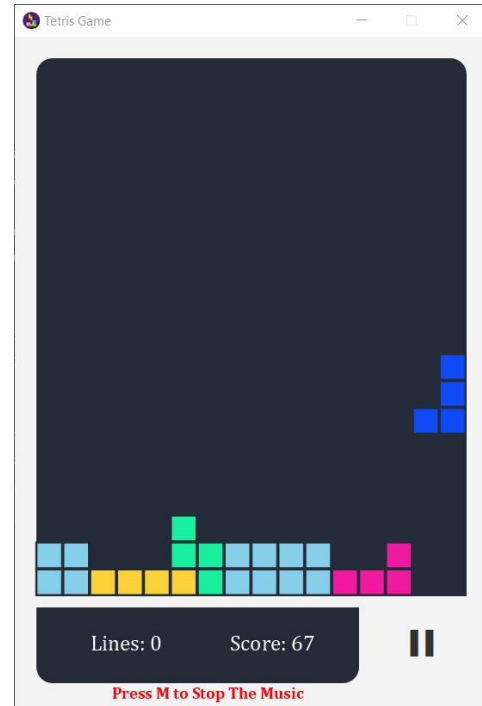
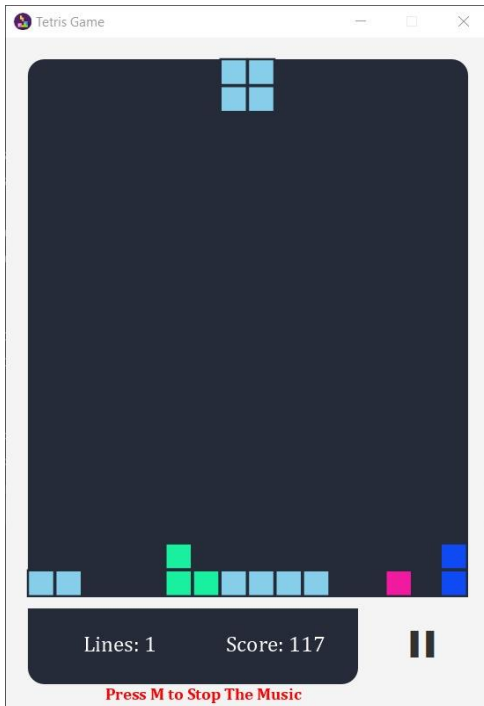
When we press on the combo box of the scene the color change in the pane.



When we press on ON the music turned on and when we press on OFF the music turned off



If you complete one coulomb it will be removed , and if a row completed you will lose and game over page will appear.



## Errors :

1. **the problem** : netbeans make a lot of problems in the performance of the code and sometimes it doesn't want to play the game and gives us a lot of errors so we use another application ( intel ).

2. we try to make one stage for all classes , and make the rest of classes ( extends pane ) , but we failed to add the remaining components on the pane itself

3. **the problem** : when we play and the shape descends it become one shape and there weren't any distinction lines between each block.

**The error** : we subtracted one pixel from the total block size

## The links that help us in preform the game :

1 : <https://harmash.com/tutorials/javafx/overview>

2 : <https://youtube.com/playlist?list=PL2rLmp34yGZwalOzyR96vjOvVIA1b43ws>

3 : <https://poe.com/>

4 : <https://stackoverflow.com/>

---

## The Links of The Project on Github :

- <https://github.com/M0oham6d/Tetris-Game>