

Assembly Language Final Project

Title: 刮鬍子! 娛樂城777

Group 7

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asm code:

1. random result for the 777 machine

- explanation & code

```
1  include Irvine32.inc
2  .data
3  ranNum BYTE 3 dup(?) ;we need three numbers
4  filename BYTE "777.txt",0 ;save the result in "777.txt"
5  fileHandle DWORD ? ; handle to output file
6  bytesWritten DWORD ? ; number of bytes written
7  .code
8  beard777 PROC
9      INVOKE CreateFile,
10     ADDR filename, GENERIC_WRITE, DO_NOT_SHARE, NULL,
11     CREATE_ALWAYS, FILE_ATTRIBUTE_NORMAL, 0 ;create an empty file
12     mov fileHandle, eax ; save file handle
13
14    mov ecx, 3 ;three times for three numbers
15    mov esi, offset ranNum
16    call Randomize ;get random number from current time
17    L1:
18    mov eax, 4 ;get random 0 to 3
19    call RandomRange ;
20    add eax, 49 ;make range 1 to 4(+48 to turn into character)
21    mov [esi], al ;save random number
22    mov edx, 4 ;number of bytes
23    inc esi
24    loop L1
25
26    INVOKE WriteFile, ; write text to file
27    fileHandle, ; file handle
28    ADDR ranNum, ; buffer pointer
29    3, ; number of bytes to write
30    ADDR bytesWritten, ; number of bytes written
31    0 ; overlapped execution flag
32    INVOKE CloseHandle, fileHandle
33    exit
34  beard777 ENDP
35  END beard777
```

2. random result for the Spin the Wheel

- explanation & code

```

1  include Irvine32.inc
2  .data
3  |    ranNum BYTE ? ;we need one number
4  |    filename BYTE "plate.txt",0 ;save the result in "plate.txt"
5  |    fileHandle DWORD ? ; handle to output file
6  |    bytesWritten DWORD ? ; number of bytes written
7  .code
8  beardplate PROC
9      INVOKE CreateFile,
10     ADDR filename, GENERIC_WRITE, DO_NOT_SHARE, NULL,
11     CREATE_ALWAYS, FILE_ATTRIBUTE_NORMAL, 0 ;create an empty file
12     mov fileHandle,eax ; save file handle
13
14     call Randomize
15     mov eax,9 ;get random 0 to 8
16     call RandomRange ;
17     add eax, 49 ;make range 1 to 9(+48 to turn into character)
18     mov ranNum,al ;save random number
19     mov edx,4 ;number of bytes
20
21     INVOKE WriteFile, ; write text to file
22     fileHandle, ; file handle
23     ADDR ranNum, ; buffer pointer
24     1, ; number of bytes to write
25     ADDR bytesWritten, ; number of bytes written
26     0 ; overlapped execution flag
27     INVOKE CloseHandle, fileHandle
28     exit
29 beardplate ENDP
30 END beardplates

```

3. random result for the horse racing

- explanation & code

```

1  include Irvine32.inc
2  .data
3  |    ranNum BYTE 2 dup(?) ;we need one tens digit number
4  |    filename BYTE "horse.txt",0 ;save the result in "horse.txt"
5  |    fileHandle DWORD ? ; handle to output file
6  |    bytesWritten DWORD ? ; number of bytes written
7  .code
8  beardhorse PROC
9      INVOKE CreateFile,
10     ADDR filename, GENERIC_WRITE, DO NOT_SHARE, NULL,
11     CREATE_ALWAYS, FILE_ATTRIBUTE_NORMAL, 0 ;create an empty file
12     mov fileHandle,eax ; save file handle
13
14     mov esi, offset ranNum
15     call Randomize ;get random number from current time
16     mov eax,12 ;get random 0 to 11
17     call RandomRange ;
18     inc eax
19     mov cl, 10
20     div cl ;let tens digit stay in ah, and units digit stay in al
21
22     add al, 48 ;+48 to turn into character
23     mov [esi],al ;save random number
24     inc esi
25     add ah, 48 ;+48 to turn into character
26     mov [esi],ah
27     mov edx,4 ;number of bytes
28
29     INVOKE WriteFile, ; write text to file
30     fileHandle, ; file handle
31     ADDR ranNum, ; buffer pointer
32     2, ; number of bytes to write
33     ADDR bytesWritten, ; number of bytes written
34     0 ; overlapped execution flag
35     INVOKE CloseHandle, fileHandle
36     exit
37 beardhorse ENDP
38 END beardhorse

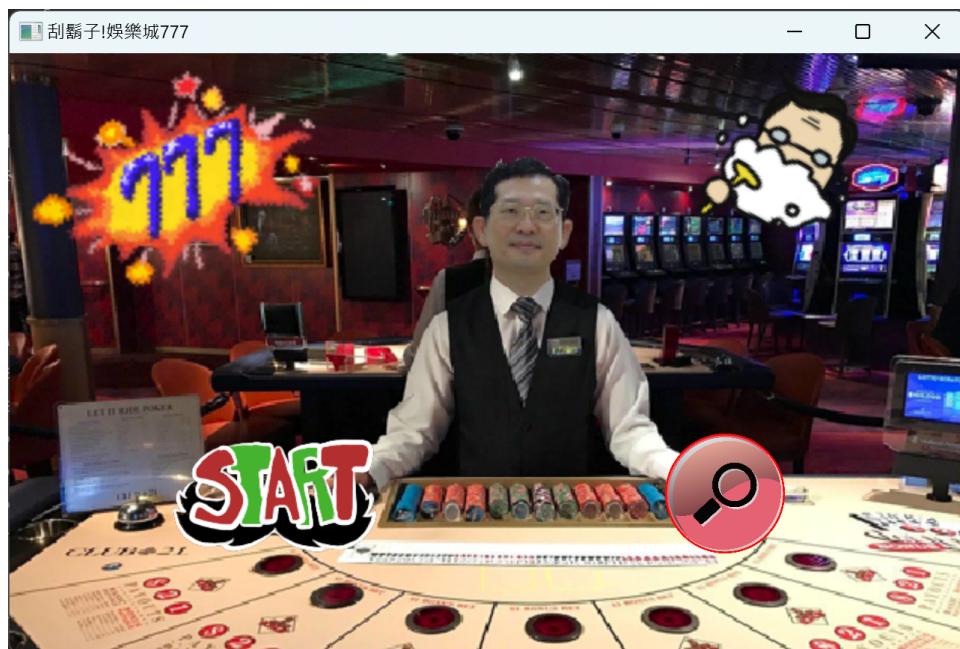
```

GUI: javaFX

Menu

```
public class HelloApplication extends Application {  
    1 usage  
    Image ldr_beard1 = new Image(s: "file:C:\\Users\\xian4\\Desktop\\beardtown\\ldr_beard1.PNG");  
    no usages  
    Image ldr_beard2 = new Image(s: "file:C:\\Users\\xian4\\Desktop\\beardtown\\ldr_beard2.PNG");  
    no usages  
    Image ldr_beard3 = new Image(s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\ldr_beard3.PNG");  
    4 usages  
    Image ldr_beard = ldr_beard1;  
    5 usages  
    ImageView ldr_beardview = new ImageView(ldr_beard);  
  
    8 usages  
    int size = 50;  
  
    3 usages  
    public void setLdr_beardview(ImageView ldr_beardview, Image beard, int size) {  
        this.ldr_beardview = ldr_beardview;  
        this.size = size;  
        ldr_beardview.setPreserveRatio(false);  
        ldr_beardview.setFitHeight(size);  
        ldr_beardview.setY(145);  
        ldr_beardview.setX(500);  
    }  
}
```

First, I set three images as the global variables. And establish a public method which can change the beard style in subprograms.

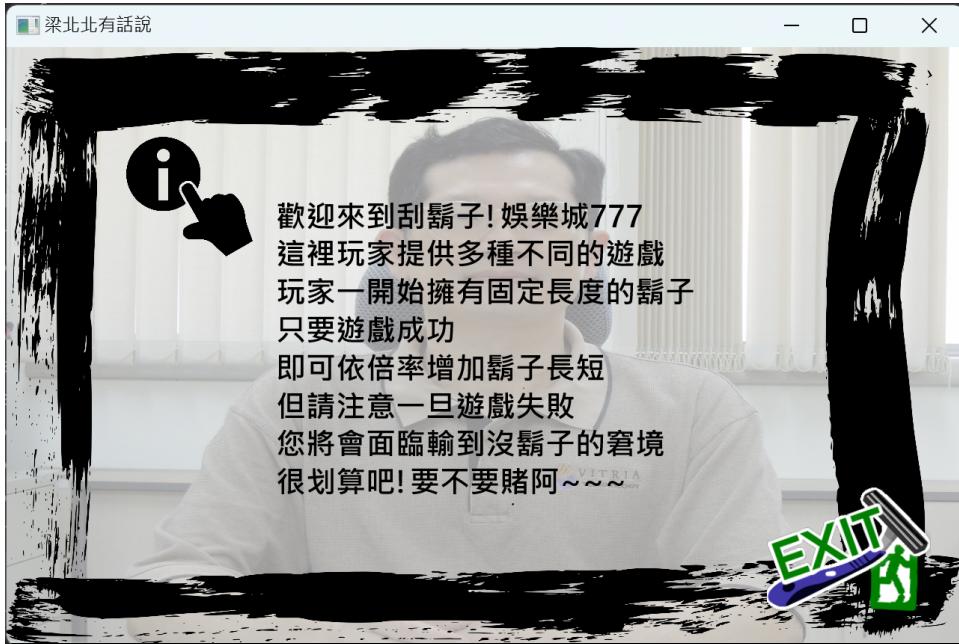


```

public void start(Stage stage){
    stage.setTitle("刮鬍子！娛樂城777");
    //boom 777//
    Image boom_img = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\boom.PNG");
    ImageView boom_imgv = new ImageView(boom_img);
    boom_imgv.setY(-20);
    boom_imgv.setX(10);
    boom_imgv.setFitHeight(200);
    boom_imgv.setPreserveRatio(true);
    //boom 777//
    Image bub_img = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\bubble.PNG");
    ImageView bub_imgv = new ImageView(bub_img);
    bub_imgv.setY(0);
    bub_imgv.setX(450);
    bub_imgv.setFitHeight(150);
    bub_imgv.setPreserveRatio(true);
    bub_imgv.setRotate(30);
    //button start//
    Button btn_start = new Button();
    btn_start.setStyle("-fx-background-color: Transparent");
    Image img_start = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\start.PNG");
    ImageView imgv_start = new ImageView(img_start);
    imgv_start.setFitHeight(80);
    imgv_start.setPreserveRatio(true);
    btn_start.setGraphic(imgv_start);
    btn_start.setLayoutX(100); btn_start.setLayoutY(250);
    btn_start.setOnAction((e)->{
        btn_start.setGraphic(imgv_start);
        btn_start.setLayoutX(100); btn_start.setLayoutY(250);
        btn_start.setOnAction((e)->{
            this.game_selection(stage);
        });
        //button information//
        Button btn_info = new Button();
        btn_info.setStyle("-fx-background-color: Transparent");
        Image img_info = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\info.PNG");
        ImageView imgv_info = new ImageView(img_info);
        imgv_info.setFitHeight(80);
        imgv_info.setPreserveRatio(true);
        btn_info.setGraphic(imgv_info);
        btn_info.setLayoutX(430); btn_info.setLayoutY(250);
        btn_info.setOnAction((e)->{
            this.info(stage);
        });
        //background //
        Image image = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\start_casino.png");
        BackgroundSize size = new BackgroundSize(BackgroundSize.AUTO,
            BackgroundSize.AUTO,
            b: false,
            b1: false,
            b2: true,
            b3: false);
        Background background = new Background(new BackgroundImage(image,
            BackgroundRepeat.NO_REPEAT,
            BackgroundRepeat.NO_REPEAT,
            BackgroundPosition.CENTER,
            size));
        Pane root = new Pane();
        root.setBackground(background);
        root.getChildren().addAll(btn_start,btn_info,boom_imgv,bub_imgv);
        stage.setScene(new Scene(root, v: 640, v1: 400));
        stage.show();
    });
}

```

For the start page, I used a public method and set the Stage as stage. As you can see, there are two buttons in total. One is to enter the game's selection page, and the other is to enter the description page for this game.



```
public void info(Stage stage) {
    stage.setTitle("梁北北有話說");
    //info icon/
    Image info_img = new Image( "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\info_icon.png");
    ImageView info_imgv = new ImageView(info_img);
    info_imgv.setFitHeight(80);
    info_imgv.setPreserveRatio(true);
    info_imgv.setX(80);
    info_imgv.setY(60);
    //conversation //
    Image con_img = new Image( "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\frame.png");
    ImageView con_imgv = new ImageView(con_img);
    con_imgv.setPreserveRatio(false);
    con_imgv.setFitHeight(400);
    con_imgv.setFitWidth(640);
    //information text/
    TextFlow tf = new TextFlow();
    Text info_text = new Text( "歡迎來到刮鬍子! 娛樂城777\\n" );
    Text txt2 = new Text( "這裡玩家提供多種不同的遊戲\\n" );
    Text txt3 = new Text( "玩家一開始擁有固定長度的鬍子\\n" );
    Text txt4 = new Text( "只要遊戲成功\\n" );
    Text txt5 = new Text( "即可依倍率增加鬍子長短\\n" );
    Text txt6 = new Text( "但請注意一旦遊戲失敗\\n" );
    Text txt7 = new Text( "您將會面臨輸到沒鬍子的窘境\\n" );
    Text txt8 = new Text( "很划算吧! 要不要賭阿~~~" );
```

```

Font f = Font.font("Note Serif TC", FontWeight.BOLD, 20);
info_text.setFont(f);
txt2.setFont(f);
txt3.setFont(f);
txt4.setFont(f);
txt5.setFont(f);
txt6.setFont(f);
txt7.setFont(f);
txt8.setFont(f);
tf.getChildren().add(info_text);
tf.setLayout(100);
tf.setLayoutX(180);
// timeline //
Timeline tl = new Timeline(new KeyFrame(Duration.millis(1200), new EventHandler<ActionEvent>() {
    14 usages
    int i=1;
    @Override
    public void handle(ActionEvent actionEvent) {
        if(i==1){
            i+=1;
            tf.getChildren().add(txt2);
        } else if (i==2) {
            i+=1;
            tf.getChildren().add(txt3);
        } else if (i==3) {
            i+=1;
            tf.getChildren().add(txt4);
        }
        tf.getChildren().add(txt4);
    } else if (i==4) {
        i+=1;
        tf.getChildren().add(txt5);
    } else if (i==5) {
        i+=1;
        tf.getChildren().add(txt6);
    } else if (i==6) {
        i+=1;
        tf.getChildren().add(txt7);
    } else if (i==7) {
        i+=1;
        tf.getChildren().add(txt8);
    }
});
tl.setCycleCount(70);
tl.play();
//button exit//
Button btn_exit = new Button();
btn_exit.setStyle("-fx-background-color: Transparent");
Image img_exit = new Image("file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\exit.PNG");
ImageView imgv_exit = new ImageView(img_exit);
imgv_exit.setFitHeight(100);
imgv_exit.setPreserveRatio(true);
btn_exit.setGraphic(imgv_exit);
btn_exit.setLayoutX(500); btn_exit.setLayoutY(290);
btn_exit.setOnAction((e)->{
    this.start(stage);
});

//background //
Image image = new Image("file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\ldr.png");
ImageView imageView = new ImageView(image);
imageView.setPreserveRatio(false);
imageView.setFitHeight(400);
imageView.setFitWidth(640);
Pane root = new Pane();
root.getChildren().addAll(imageView,info_imgv,con_imgv,tf,btn_exit);
stage.setScene(new Scene(root, 640, 400));
stage.show();
}
}

```

For the description page, I set up a method called info. And you can see that there is one button and eight lines of description. To let each line show up one by

one, I used the timeline method, and let the duration be 1.2 seconds. So the line can show up automatically as time passes by. For the exit button, if the player presses it, then he can go back to the start page.



```
public void game_selection(Stage stage){
    stage.setTitle("狂赌之父");
    //background//
    Image back_img = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\game_background.png");
    ImageView back_imgv = new ImageView(back_img);
    back_imgv.setPreserveRatio(false);
    back_imgv.setFitHeight(400);
    back_imgv.setFitWidth(640);
    // ldn's beard//
    setLdn_beardview(ldn_beardview,ldn_beard,size);
    //btn slot machine//
    Button btn_slot = new Button();

    Image slot_img = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\slotmachine.png");
    ImageView slot_imgv = new ImageView(slot_img);
    slot_imgv.setFitHeight(100);
    slot_imgv.setFitWidth(100);
    btn_slot.setGraphic(slot_imgv);
    btn_slot.setOnAction((e)->{
        try {
            this.slot_machine(stage);
        } catch (IOException ex) {
            throw new RuntimeException(ex);
        }
    });
}
```

```

//button roulette//
Button btn_roulette = new Button();

Image roulette_img = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\roulette.png");
ImageView roulette_imgv = new ImageView(roulette_img);
roulette_imgv.setFitHeight(100);
roulette_imgv.setFitWidth(100);
btn_roulette.setGraphic(roulette_imgv);
btn_roulette.setOnAction((e)->{
    this.roulette(stage);
});

//button horse//
Button btn_horse = new Button();
Image horse_img = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\horse.png");
ImageView horse_imgv = new ImageView(horse_img);
horse_imgv.setFitHeight(100);
horse_imgv.setFitWidth(100);
btn_horse.setGraphic(horse_imgv);
btn_horse.setOnAction((e)->{
    this.horse(stage);
});

```



```

// action event
EventHandler<ActionEvent> event = new
    EventHandler<ActionEvent>() {
        public void handle(ActionEvent e)
        {
            Stage yousure = new Stage();
            yousure.setTitle("Are you sure??");
            Label lb = new Label();
            lb.setText("你確定要離開刮鬍子娛樂城嗎?\n" +
                "真的不想賭嗎? 很划算~");
            lb.setLayoutY(20);
            lb.setLayoutX(40);
            Button leave = new Button( s: "再賭就要沒鬍子了");
            leave.setOnAction(new EventHandler<ActionEvent>()
            {
                @Override
                public void handle(ActionEvent actionEvent) {
                    yousure.close();
                    stage.close();
                    this.happyend(stage);
                }
            });

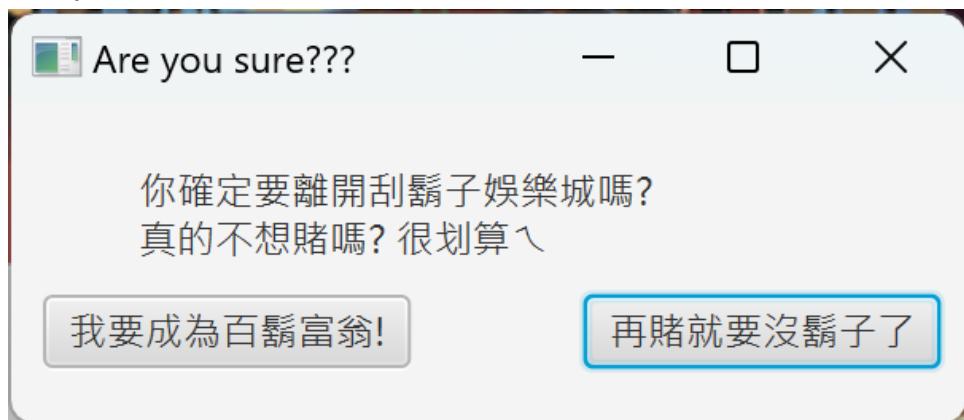
            1 usage
            private void happyend(Stage stage) {

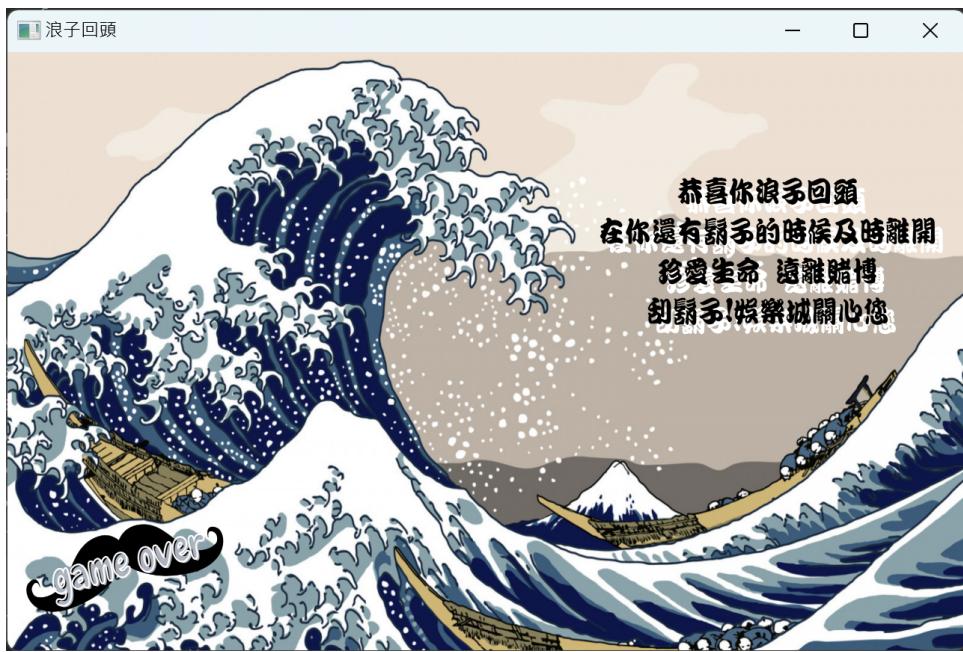
                stage.setTitle("浪子回头");
                Image sea = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\sea.png");
                ImageView seaview = new ImageView(sea);
                seaview.setFitWidth(640);
                seaview.setLayoutX(0);
                seaview.setLayoutY(0);
                seaview.setFitWidth(640);
                seaview.setFitHeight(400);
                Button gameover = new Button();
                gameover.setMinHeight(100);
                gameover.setMinWidth(150);
                gameover.setLayoutX(10);
                gameover.setLayoutY(300);
                gameover.setStyle("-fx-background-color: Transparent");
                gameover.setOnAction(new EventHandler<ActionEvent>()
                {
                    @Override
                    public void handle(ActionEvent actionEvent) { stage.close(); }
                });
                Pane root = new Pane();
                root.getChildren().addAll(seaview,gameover);
                stage.setScene(new Scene(root, v: 640, vt: 400));
                stage.show();
            }
        });
        Button back = new Button( s: "我要成為百鬍富翁!");
        back.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent actionEvent) { yousure.close(); }
        });
        back.setLayoutY(60); back.setLayoutX(10);
        leave.setLayoutY(60); leave.setLayoutX(180);
        Pane root = new Pane();
        root.getChildren().addAll(lb,leave,back);
        yousure.setScene(new Scene(root, v: 300, vt: 100));
    }
}

```

```
        leave.setLayoutY(60); leave.setLayoutX(180);
        Pane root = new Pane();
        root.getChildren().addAll(lb,leave,back);
        yousure.setScene(new Scene(root, v: 300, v1: 100));
        yousure.show();
    }
}
//button exit/
Button exit = new Button();
exit.setStyle("-fx-background-color: Transparent");
exit.setOnAction(event);
exit.setMinHeight(80);
exit.setMinWidth(40);
exit.setLayoutX(540);
exit.setLayoutY(0);
// button in hbox/
HBox hbox = new HBox();
hbox.getChildren().addAll(btn_horse,btn_roulette,btn_slot);
hbox.setLayoutX(30);
hbox.setLayoutY(150);
hbox.setSpacing(20);
//pane/
Pane root = new Pane();
root.getChildren().addAll(back_imgv,hbox,exit,ldr_beardview);
stage.setScene(new Scene(root, v: 640, v1: 400));
stage.show();
}
}
```

In the selection page, there are three buttons for games. One is horse race, one is roulette, and the other is slot machine. And there is a hidden button on the door of the background image. Besides the beard on teacher.Liang will change according to the result of games. If you want to end this game, you have to find the hidden button. Once you find it, you will face two choices, exiting the game or continuing it. Like the picture below. If you press the left button, you will go back to the selection page, and continue the game. But if you press the right one, you will go to another page. Congraduation! You make an achievement of a happy ending. Like the second picture below.

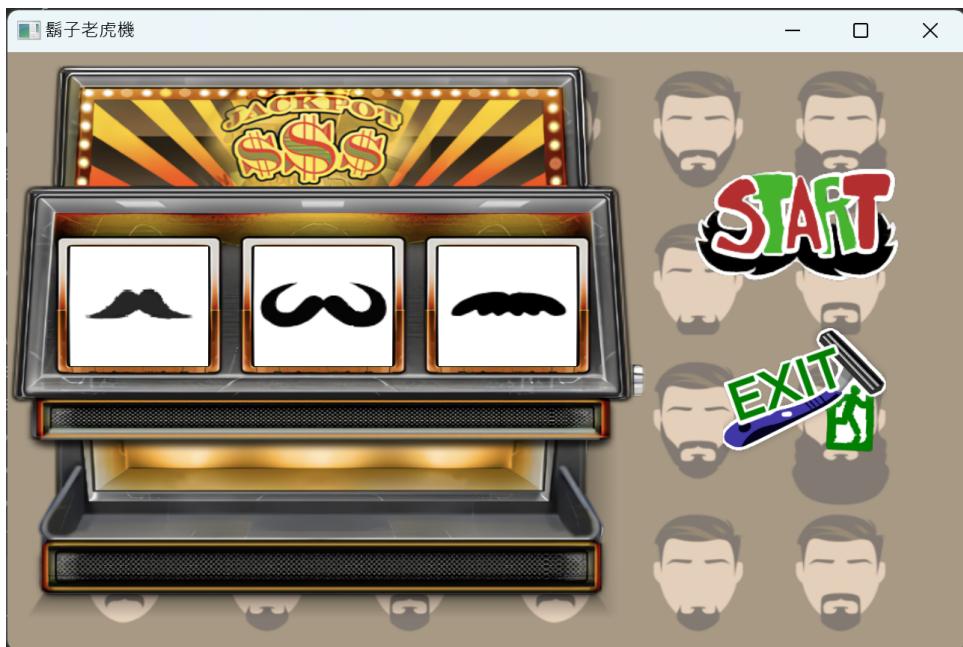




And if you go back to the selection page, you can choose any of three games. If you choose a slot machine, you will jump to the slot machine page and can play the slot machine games.

Games

1. 777



```

    no usages
public static void main() throws IOException {
    Runtime.getRuntime().exec( command: "beard777.exe");
    launch();
}

public void slot_machine(Stage stage) throws IOException {
    stage.setTitle("鬍子老虎機");

    //beard pictures//
    Image img1 = new Image( s: "file:C:\\Users\\xian4\\Desktop\\\\beardtown\\beard1.png");
    Image img2 = new Image( s: "file:C:\\Users\\xian4\\Desktop\\\\beardtown\\beard2.png");
    Image img3 = new Image( s: "file:C:\\Users\\xian4\\Desktop\\\\beardtown\\beard3.png");
    Image img4 = new Image( s: "file:C:\\Users\\xian4\\Desktop\\\\beardtown\\beard4.png");
    ImageView img1view = new ImageView(img1);
    ImageView img2view = new ImageView(img2);
    ImageView img3view = new ImageView(img3);
    img1view.setFitWidth(92);
    img1view.setFitHeight(80);
    img2view.setFitWidth(92);
    img2view.setFitHeight(80);
    img3view.setFitWidth(92);
    img3view.setFitHeight(80);
    img1view.setX(42); img1view.setY(130);
    img2view.setX(165); img2view.setY(130);
    img3view.setX(288); img3view.setY(130);

    //image list//
    Image[] img_list={img1,img2,img3,img4};
    ImageView[] imgv_list={img1view,img2view,img3view};

    //get txt file//
    File file = new File( pathname: "777.txt");
    File file = new File( pathname: "777.txt");
    BufferedReader br = new BufferedReader(new FileReader(file));
    String string_in_txt;
    string_in_txt=br.readLine();
    System.out.println(string_in_txt);
    //change string into int in txt file//
    Integer[] int_in_txt={0,0,0};
    Integer j=0;
    for(int i=0;i<string_in_txt.length();i++) {
        if (string_in_txt.charAt(i) >= '0' && string_in_txt.charAt(i) <= '9') {
            int_in_txt[j] = string_in_txt.charAt(i) - '0';
            j += 1;
        }
    }

    // TextFlow creation start
    TextFlow tf = new TextFlow();
    Text txt_start = new Text( s: "Start");
    txt_start.setFill(Color.WHITE);
    Font f = Font.font( s: "Verdana", FontWeight.BOLD,  s: 20);
    txt_start.setFont(f);
    tf.getChildren().add(txt_start);
    tf.setLayoutX(500); tf.setLayoutY(110);

    //button start//
    Button btn_start = new Button();
    btn_start.setStyle("-fx-background-color: Transparent");
}

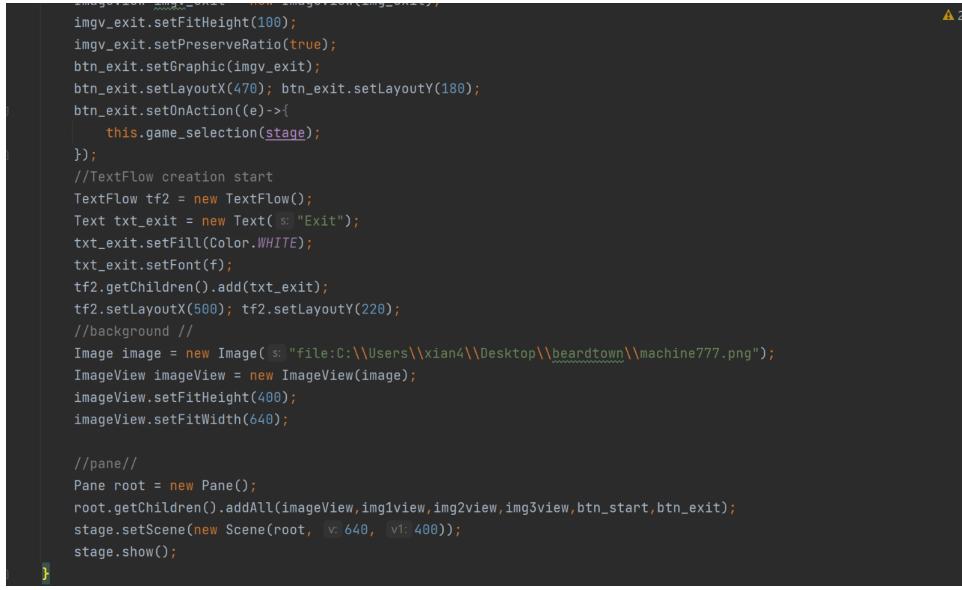
```

```

//button start/
Button btn_start = new Button();
btn_start.setStyle("-fx-background-color: Transparent");
Image img_start = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\start.PNG");
ImageView imgv_start = new ImageView(img_start);
imgv_start.setFitHeight(80);
imgv_start.setPreserveRatio(true);
btn_start.setGraphic(imgv_start);
btn_start.setLayoutX(450); btn_start.setLayoutY(70);
btn_start.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {
        Random rand = new Random();
        Timeline tl = new Timeline(new KeyFrame(Duration.millis( 40), new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent actionEvent) {
                int rand_int1 = rand.nextInt( bound: 4);
                int rand_int2 = rand.nextInt( bound: 4);
                int rand_int3 = rand.nextInt( bound: 4);
                img1view.setImage(img_list[rand_int1]);
                img2view.setImage(img_list[rand_int2]);
                img3view.setImage(img_list[rand_int3]);
            }
        }));
        tl.setCycleCount(70);
        tl.play();
        tl.setOnFinished(new EventHandler<ActionEvent>() {
            });
        tl.setCycleCount(70);
        tl.play();
        tl.setOnFinished(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent actionEvent) {
                int rand1 = rand.nextInt( bound: 4);
                int rand2 = rand.nextInt( bound: 4);
                int rand3 = rand.nextInt( bound: 4);
                int_in_txt[0] = (rand1 + int_in_txt[0]) % 4 + 1;
                int_in_txt[1] = (rand2 + int_in_txt[1]) % 4 + 1;
                int_in_txt[2] = (rand3 + int_in_txt[2]) % 4 + 1;
                if(int_in_txt[0]==int_in_txt[1]&&int_in_txt[1]==int_in_txt[2]){
                    size = size + 5;
                    setLdr_beardview(ldr_beardview,ldr_beard,size);
                }
                else {
                    size = size - 5;
                    setLdr_beardview(ldr_beardview,ldr_beard,size);
                }
                for(int i=0;i<int_in_txt.length;i++){
                    imgv_list[i].setImage(img_list[ (int_in_txt[i]-1 )]);
                }
            }
        });
    }
});

//button exit/
Button btn_exit = new Button();
btn_exit.setStyle("-fx-background-color: Transparent");
Image img_exit = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\exit.PNG");
ImageView imgv_exit = new ImageView(img_exit);
imgv_exit.setFitHeight(100);
imgv_exit.setPreserveRatio(true);
btn_exit.setGraphic(imgv_exit);
btn_exit.setLayoutX(470); btn_exit.setLayoutY(180);
btn_exit.setOnAction((e)->{
    this.game_selection(stage);
});
//TextFlow creation start
TextFlow tf2 = new TextFlow();
Text txt_exit = new Text(s: "Exit");
txt_exit.setFill(Color.WHITE);
txt_exit.setFont(f);
tf2.getChildren().add(txt_exit);
tf2.setLayoutX(500); tf2.setLayoutY(220);
//background //
Image image = new Image( s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\machine777.png");
ImageView imageView = new ImageView(image);
imageView.setFitHeight(400);
imageView.setFitWidth(640);

```



```

        imgv_exit.setFitHeight(100);
        imgv_exit.setPreserveRatio(true);
        btn_exit.setGraphic(imgv_exit);
        btn_exit.setLayoutX(470); btn_exit.setLayoutY(180);
        btn_exit.setOnAction((e)->{
            this.game_selection(stage);
        });
        //TextFlow creation start
        TextFlow tf2 = new TextFlow();
        Text txt_exit = new Text(s: "Exit");
        txt_exit.setFill(Color.WHITE);
        txt_exit.setFont(f);
        tf2.getChildren().add(txt_exit);
        tf2.setLayoutX(500); tf2.setLayoutY(220);
        //background //
        Image image = new Image(s: "file:C:\\\\Users\\\\xian4\\\\Desktop\\\\beardtown\\\\machine777.png");
        ImageView imageView = new ImageView(image);
        imageView.setFitHeight(400);
        imageView.setFitWidth(640);

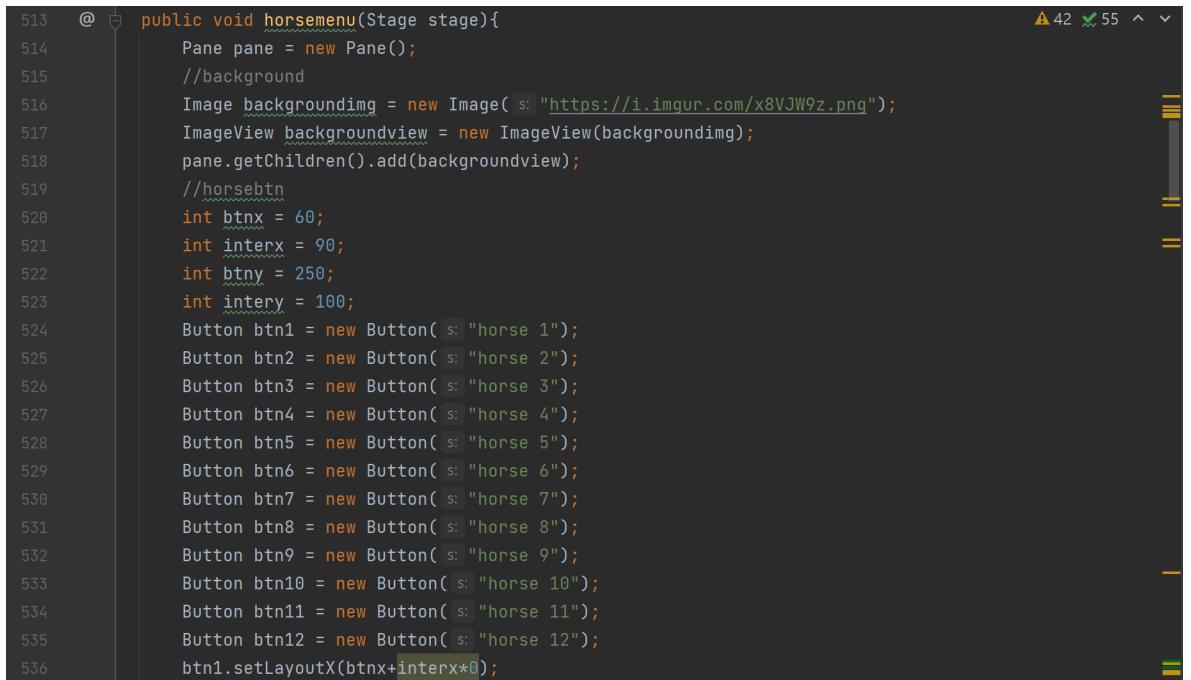
        //pane//
        Pane root = new Pane();
        root.getChildren().addAll(imageView,img1view,img2view,img3view,btn_start,btn_exit);
        stage.setScene(new Scene(root, v: 640, v1: 400));
        stage.show();
    }
}

```

For the slot machine page, I set up a public method called slot machine, and there are two buttons: one is start, one is exit. Button start is to start the game, as soon as the player presses it, the three pictures in the slot machine will change automatically. And the game result is based on the exe file written in assembly language. We transform the exe file into a txt file and read the txt file. So if the result is a lose, the beard in the selection page will get shorter. On the contrary, if the result is a win, the beard will get longer. The exit button is to go back to the selection page , if the player wants to change the games, he can press it at will.

2. Horse Race

Menu



```

513  @ public void horsemenu(Stage stage){
514      Pane pane = new Pane();
515      //background
516      Image backgroundimg = new Image(s: "https://i.imgur.com/x8VJW9z.png");
517      ImageView backgroundview = new ImageView(backgroundimg);
518      pane.getChildren().add(backgroundview);
519      //horsebtn
520      int btxx = 60;
521      int interx = 90;
522      int btny = 250;
523      int intery = 100;
524      Button btn1 = new Button(s: "horse 1");
525      Button btn2 = new Button(s: "horse 2");
526      Button btn3 = new Button(s: "horse 3");
527      Button btn4 = new Button(s: "horse 4");
528      Button btn5 = new Button(s: "horse 5");
529      Button btn6 = new Button(s: "horse 6");
530      Button btn7 = new Button(s: "horse 7");
531      Button btn8 = new Button(s: "horse 8");
532      Button btn9 = new Button(s: "horse 9");
533      Button btn10 = new Button(s: "horse 10");
534      Button btn11 = new Button(s: "horse 11");
535      Button btn12 = new Button(s: "horse 12");
536      btn1.setLayoutX(btxx+interx*0);

```

```
537     btn1.setLayoutY(btny);
538     btn2.setLayoutX(btnx+interx*1);
539     btn2.setLayoutY(btny);
540     btn3.setLayoutX(btnx+interx*2+10);
541     btn3.setLayoutY(btny);
542     btn4.setLayoutX(btnx+interx*3+30);
543     btn4.setLayoutY(btny);
544     btn5.setLayoutX(btnx+interx*4+30);
545     btn5.setLayoutY(btny);
546     btn6.setLayoutX(btnx+interx*5+30);
547     btn6.setLayoutY(btny);
548     btn7.setLayoutX(btnx+interx*0);
549     btn7.setLayoutY(btny+intery);
550     btn8.setLayoutX(btnx+interx*1);
551     btn8.setLayoutY(btny+intery);
552     btn9.setLayoutX(btnx+interx*2+10);
553     btn9.setLayoutY(btny+intery);
554     btn10.setLayoutX(btnx+interx*3+30);
555     btn10.setLayoutY(btny+intery);
556     btn11.setLayoutX(btnx+interx*4+30);
557     btn11.setLayoutY(btny+intery);
558     btn12.setLayoutX(btnx+interx*5+30);
559     btn12.setLayoutY(btny+intery);
560     Text choosetxt = new Text( s: "Please choose the horse:");

```

line 514: Create a pane.

line 516 ~ line 517: Set the background image.

line 518: Add background image into the pane.

line 520 ~ line 559: Create 12 buttons so that the player can choose the horse he or she wants.

```
561     Text youchoose = new Text( s: "You choose Horse:"+ bethorse);
562     btn1.setOnAction((e) -> {
563         bethorse = 1;
564         youchoose.setText("You choose Horse:"+ bethorse);
565     });
566     btn2.setOnAction((e) -> {
567         bethorse = 2;
568         youchoose.setText("You choose Horse:"+ bethorse);
569     });
570     btn2.setOnAction((e) -> {
571         bethorse = 2;
572         youchoose.setText("You choose Horse:"+ bethorse);
573     });
574     btn3.setOnAction((e) -> {
575         bethorse = 3;
576         youchoose.setText("You choose Horse:"+ bethorse);
577     });
578     btn3.setOnAction((e) -> {
579         bethorse = 3;
580         youchoose.setText("You choose Horse:"+ bethorse);
581     });
582     btn4.setOnAction((e) -> {
583         bethorse = 4;
584         youchoose.setText("You choose Horse:"+ bethorse);
```

```

585     });
586     btn5.setOnAction((e) -> {
587         bethorse = 5;
588         youchoose.setText("You choose Horse:"+ bethorse);
589     });
590     btn6.setOnAction((e) -> {
591         bethorse = 6;
592         youchoose.setText("You choose Horse:"+ bethorse);
593     });
594     btn7.setOnAction((e) -> {
595         bethorse = 7;
596         youchoose.setText("You choose Horse:"+ bethorse);
597     });
598     btn8.setOnAction((e) -> {
599         bethorse = 8;
600         youchoose.setText("You choose Horse:"+ bethorse);
601     });
602     btn9.setOnAction((e) -> {
603         bethorse = 9;
604         youchoose.setText("You choose Horse:"+ bethorse);
605     });
606     btn10.setOnAction((e) -> {
607         bethorse = 10;
608         youchoose.setText("You choose Horse:"+ bethorse);
609     });
610     btn11.setOnAction((e) -> {
611         bethorse = 11;
612         youchoose.setText("You choose Horse:"+ bethorse);
613     });
614     btn12.setOnAction((e) -> {
615         bethorse = 12;
616         youchoose.setText("You choose Horse:"+ bethorse);
617     });
618
619     choosetxt.setLayoutX(270);
620     choosetxt.setLayoutY(60);
621     choosetxt.setFont(Font.font(30));
622     youchoose.setLayoutX(270);
623     youchoose.setLayoutY(90);
624     youchoose.setFont(Font.font(30));
625     pane.getChildren().addAll(choosetxt,youchoose);
626     pane.getChildren().addAll(btn1, btn2, btn3, btn4, btn5, btn6,
627         btn7, btn8, btn9, btn10, btn11, btn12);

```

line 562 ~ line 617: Set the function of 12 buttons.

Each time the player presses the button, the interface changes the text.
So that the player will know the horse he or she chooses.

line 619~line 624: Set the style of the text.

line 625, line 626: Put all elements into the pane.

```

628     //Create a Button
629     Button start = new Button();
630     start.setLayoutX(100);
631     start.setLayoutY(25);
632     //Create imageView with background image
633     ImageView view = new ImageView(new Image(s: "https://i.imgur.com/Rjqi4yv.png"));
634     view.setFitHeight(80);
635     view.setPreserveRatio(true);
636     //Attach image to the button
637     start.setGraphic(view);
638     //Set the image to the top
639     start.setContentDisplay(ContentDisplay.TOP);

```

line 629 ~ line 631: Create a start button to start the game.

line 633 ~ line 639: Set the button image.

The following code is the function of the start button:

```

640     start.setOnAction(e -> {
641         Random r = new Random();
642         int x = r.nextInt(bound: 9);
643         //讀exe
644         try {
645             Runtime.getRuntime().exec(command: "beardhorse.exe");
646         } catch (IOException ex) {
647             ex.printStackTrace();
648         }
649         //讀txt
650         try {
651             BufferedReader br = new BufferedReader(new FileReader(fileName: "horse.txt"));
652             String str1;
653             str1 = br.readLine();
654             winhorse = (parseInt(str1) + x)%12+1;
655             System.out.println(winhorse);
656         } catch (IOException ex) {
657             ex.printStackTrace();
658         }
659         try {
660             this.horserace(stage);
661         } catch (InterruptedException ex) {
662             ex.printStackTrace();
663         }
664     });

```

line 644~line 648: Read the asm file.

We use the exec() method in the Runtime class to read the asm file, so that the content in “horse.txt” will change after reading the file.

line 650 ~ line 644: Read the txt file.

We use BufferedReader and FileReader to read the txt file. Then, we use the readLine() method in BufferedReader class to read a line in “horse.txt” and a variable str1 to store the content in a txt file. Finally, the stage changes to the horse race scene.

```

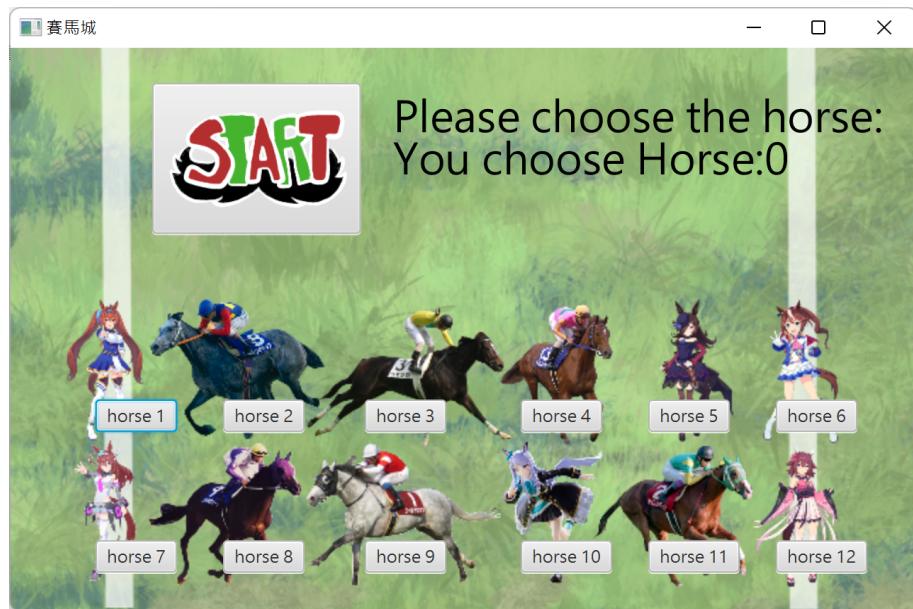
665     pane.getChildren().addAll(start);
666     Scene scene = new Scene(pane, v: 640, v1: 400);
667     stage.setTitle("賽馬城");
668     stage.setScene(scene);
669     stage.show();
670 }

```

line 665: Put the start button into the pane.

line 666 ~ line 669: Show the stage.

And the following table is the picture of the horse menu.



Race

```

671 @
672 public void horserace(Stage stage) throws InterruptedException {
673     Pane pane = new Pane();
674     //background
675     Image backgroundimg = new Image(s: "https://i.imgur.com/KKUeDiJ.png");
676     ImageView backgroundview = new ImageView(backgroundimg);
677     pane.getChildren().add(backgroundview);
678     //horse
679     ImageView horse1 = new ImageView(new Image(s: "https://i.imgur.com/fJCCXtY.png"));
680     ImageView horse2 = new ImageView(new Image(s: "https://i.imgur.com/4X1D4NS.png"));
681     ImageView horse3 = new ImageView(new Image(s: "https://i.imgur.com/65smbox.png"));
682     ImageView horse4 = new ImageView(new Image(s: "https://i.imgur.com/5Qrvp23.png"));
683     ImageView horse5 = new ImageView(new Image(s: "https://i.imgur.com/ttrStAK.png"));
684     ImageView horse6 = new ImageView(new Image(s: "https://i.imgur.com/0mUgphh.png"));
685     ImageView horse7 = new ImageView(new Image(s: "https://i.imgur.com/9pQGK9I.png"));
686     ImageView horse8 = new ImageView(new Image(s: "https://i.imgur.com/sh47sEX.png"));
687     ImageView horse9 = new ImageView(new Image(s: "https://i.imgur.com/ahLFIi1v.png"));
688     ImageView horse10 = new ImageView(new Image(s: "https://i.imgur.com/YyEaL0x.png"));
689     ImageView horse11 = new ImageView(new Image(s: "https://i.imgur.com/G7FTKef.png"));
690     ImageView horse12 = new ImageView(new Image(s: "https://i.imgur.com/HVknZdU.png"));
691     int y = -33;
692     int liney=0;
693     horse1.setLayoutX(0);
694     horse1.setLayoutY(y+=35);

```

line 672: Create a pane.

line 674 ~ line 675: set the background image.

line 676: Add background image into the pane.

line 678 ~ line 689: Import 12 horse images to different horse variables.

line 694 ~ line 695: Create a line as a path.

```
695     line1.setVisible(false);
696
697     horse2.setLayoutX(0);
698     horse2.setLayoutY(y+=33);
699
700     horse3.setLayoutX(0);
701     horse3.setLayoutY(y+=33);
702
703     horse4.setLayoutX(0);
704     horse4.setLayoutY(y+=33);
705
706     horse5.setLayoutX(0);
707     horse5.setLayoutY(y+=33);
708
709     horse6.setLayoutX(0);
710     horse6.setLayoutY(y+=33);
711
712     horse7.setLayoutX(0);
713     horse7.setLayoutY(y+=33);
714
715     horse8.setLayoutX(0);
716     horse8.setLayoutY(y+=33);
717
718     horse9.setLayoutX(0);

719     horse9.setLayoutY(y+=33);
720
721     horse10.setLayoutX(0);
722     horse10.setLayoutY(y+=33);
723
724     horse11.setLayoutX(0);
725     horse11.setLayoutY(y+=33);
726
727     horse12.setLayoutX(0);
728     horse12.setLayoutY(y+=33);
729     pane.getChildren().addAll(line1, horse1, horse2, horse3, horse4, horse5, horse6,
730                               horse7, horse8, horse9, horse10, horse11, horse12);
```

line 692, line 693, line 697 ~ line 728: Set the location of 12 horses.

line 729: Put all horses into the pane.

```

732     playanimation(line1,horse1, iswinhorse: 1);
733     playanimation(line1,horse2, iswinhorse: 2);
734     playanimation(line1,horse3, iswinhorse: 3);
735     playanimation(line1,horse4, iswinhorse: 4);
736     playanimation(line1,horse5, iswinhorse: 5);
737     playanimation(line1,horse6, iswinhorse: 6);
738     playanimation(line1,horse7, iswinhorse: 7);
739     playanimation(line1,horse8, iswinhorse: 8);
740     playanimation(line1,horse9, iswinhorse: 9);
741     playanimation(line1,horse10, iswinhorse: 10);
742     playanimation(line1,horse11, iswinhorse: 11);
743     playanimation(line1,horse12, iswinhorse: 12);
744     pane.setOnMouseClicked(e -> {
745         // 滑鼠左鍵
746         if (e.getButton() == MouseButton.PRIMARY) {
747             try {
748                 this.horseresult(stage);
749             } catch (InterruptedException ex) {
750                 ex.printStackTrace();
751             }
752         }
753     });
754 }
```

line 732 ~ line 743: Make all horses run.

line 744 ~ line 754: Create a mouseEvent so that we can check the result when we press the left mouse button.

The playanimation function code:

```

761     public void playanimation(Line line, ImageView horse, int iswinhorse) throws InterruptedException {
762         //動畫路徑
763         PathTransition pathTransition = new PathTransition();
764         //播放持續時間
765         if(iswinhorse==winhorse)    pathTransition.setDuration(Duration.millis(3000));
766         else    pathTransition.setDuration(Duration.millis(4000+iswinhorse%5*76%11*100));
767
768         //路徑為直線
769         pathTransition.setPath(line);
770         //動畫節點是horse
771         pathTransition.setNode(horse);
772         pathTransition.setOrientation(PathTransition.OrientationType.ORTHOGONAL_TO_TANGENT);
773         //跑一次
774         pathTransition.setCycleCount(1);
775         pathTransition.setAutoReverse(false);
776         pathTransition.play();
777
778     }
```

line 763: Create a new object pathTransition. We use it to set the path animation.

line 765: Set the duration of animation. The duration of the winning horse is less than other horses because it runs faster!

line 769: Set the path as a line.

line 771: Let the animation node be a horse so that the horse can run.

line 772: Let the direction be parallel to the line.

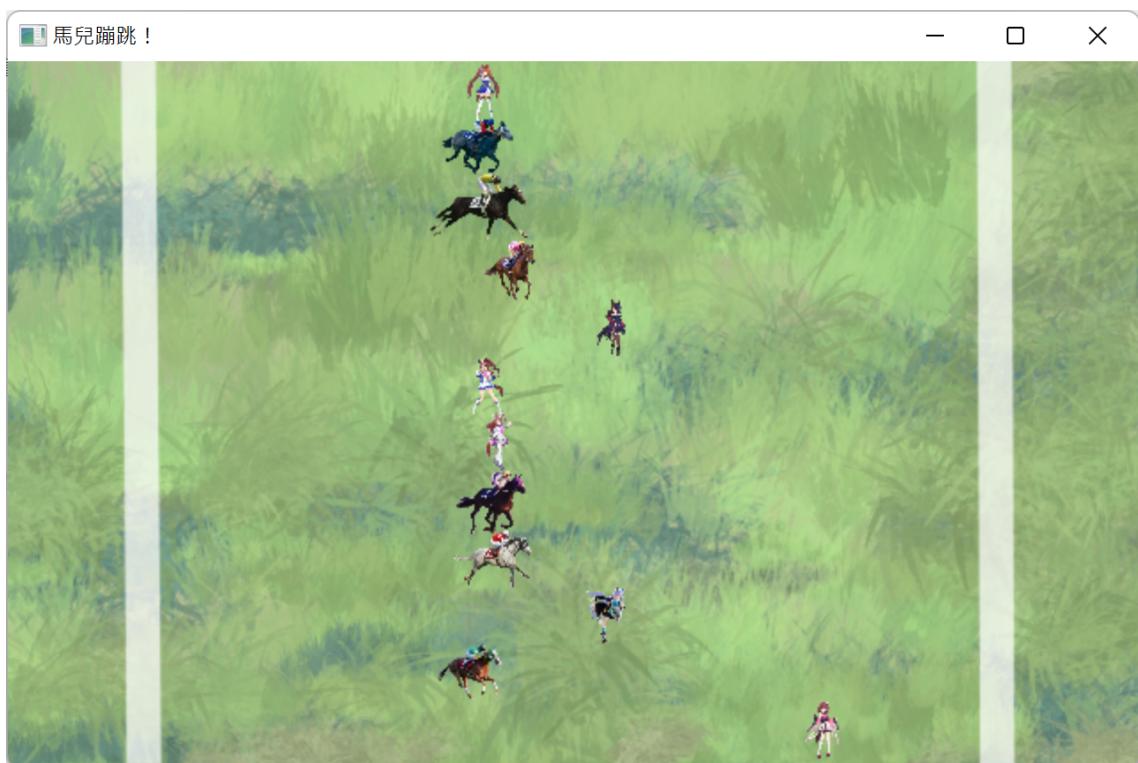
line 774, line 775: The animation only runs 1 time.

line 776: Play the animation.

```
756     Scene scene = new Scene(pane, v: 640, v1: 400);
757     stage.setTitle("馬兒蹦跳！");
758     stage.setScene(scene);
759     stage.show();
760 }
```

line 756 ~ line 759: Set the scene and add it to the stage. Then, show the stage.

And the following table is the picture of the process of the horse race.



Result

```
779     public void horseresult(Stage stage) throws InterruptedException {
780         Pane pane = new Pane();
781         //background
782         Image backgroundimg = new Image(s: "https://i.imgur.com/yAIbreE.png");
783         ImageView backgroundview = new ImageView(backgroundimg);
784         //winhorse
785         Text wintxt = new Text(Integer.toString(winhorse));
786         Text result = new Text();
787         Text prize = new Text();
788
789         if(winhorse == bethorse){
790             result.setText("You win!");
791             size+=25;
792             prize.setText("賀！你的鬍子生長了5公分！");
793         }
794         else{
795             result.setText("You lose!");
796             prize.setText("你的鬍子減少了1公分，幫QQ");
797             size-=5;
798         }
799         result.setLayoutX(200);
800         prize.setLayoutX(200);
801         result.setLayoutY(260);
802         prize.setLayoutY(295);
803
804         result.setFont(Font.font(25));
805         prize.setFont(Font.font(25));
806         wintxt.setLayoutX(370);
807         wintxt.setLayoutY(180);
808         wintxt.setFont(Font.font( s: "Lucida Handwriting", v: 40.0D));
809         wintxt.setRotate(6);
810         pane.getChildren().addAll(backgroundview,wintxt,result,prize);
```

line 780: Set a pane.

line 782 ~ line 783: Set background image.

line 785 ~ line 809: Set the content to tell the player if he or she has won the horse race.

line 809: Put all elements, the background image and the text, into the pane.

```
810     Button exit = new Button();
811     exit.setLayoutX(547);
812     exit.setLayoutY(320);
813     exit.setStyle("-fx-background-color: Transparent");
814
815     //Create imageview with background image
816     ImageView view1 = new ImageView(new Image(s: "https://i.imgur.com/HkDgkC6.png"));
817     view1.setFitHeight(80);
818     view1.setPreserveRatio(true);
819     //Attach image to the button
820     exit.setGraphic(view1);
821     //Set the image to the top
822     exit.setContentDisplay(ContentDisplay.TOP);
823     pane.getChildren().addAll(exit);
824     exit.setOnAction((e) -> this.game_selection(stage));
```

line 810 ~ 824: Set the exit button.

line 813: Make the button transparent because we want to set the button with a png file.

line 816 ~ line 822: Set the picture of the exit button.
 line 823: Put the exit button into the pane.
 line 824: Set the function of the exit button, which is to turn back to the game selection page.

```

826   Scene scene = new Scene(pane, v: 640, v1: 400);
827   stage.setTitle("賽馬結果");
828   stage.setScene(scene);
829   stage.show();
830   if(size<=0){
831
832     Timeline tl = new Timeline(new KeyFrame(Duration.seconds(2),
833                               new EventHandler<ActionEvent>() {
834       @Override
835       public void handle(ActionEvent actionEvent) {
836
837         stage.show();
838       }
839     }));
840     tl.setCycleCount(1);
841     tl.play();
842     tl.setOnFinished(new EventHandler<ActionEvent>() {
843       @Override
844       public void handle(ActionEvent actionEvent) { jail(stage); }
845     });
846
847   }
848
849 }
850
851 }
```

line 826 ~ line 829: Show the stage.
 line 830 ~ line 849: The game is over if we have no beard.

We use the setOnFinished method in javafx.animation.Timeline. If the beard size is less than or equal to 0, the stage will turn to the jail page.

And the following table is the picture of two results.

Win	Lose
	

3. Spin the Wheel

```
365     @FXML public void plate(Stage stage){  
366         Pane pane = new Pane();  
367         //background  
368         Image backgroundimg = new Image(s: "https://i.imgur.com/GAh7EaP.png");  
369         ImageView backgroundview = new ImageView(backgroundimg);  
370         pane.getChildren().add(backgroundview);  
371         //Create a Button  
372         Button start = new Button();  
373         start.setLayoutX(450);  
374         start.setLayoutY(50);  
375  
376         //Create imageview with background image  
377         ImageView view = new ImageView(new Image(s: "https://i.imgur.com/Rjq14yv.png"));  
378         view.setFitHeight(80);  
379         view.setPreserveRatio(true);  
380         //Attach image to the button  
381         start.setGraphic(view);  
382         //Set the image to the top  
383         start.setContentDisplay(ContentDisplay.TOP);
```

line 366: Set a pane.

line 368~line 370: Set background image and put it into pane.

line 372~line 374: Create a button to rotate the wheel and set its location on the pane.

line 377~ line 383: Set the picture of the start button.

```
385         //exit button  
386         Button exit = new Button();  
387         exit.setLayoutX(470);  
388         exit.setLayoutY(250);  
389         //Create imageview with background image  
390         ImageView view1 = new ImageView(new Image(s: "https://i.imgur.com/HkDgkC6.png"));  
391         view1.setFitHeight(80);  
392         view1.setPreserveRatio(true);  
393         //Attach image to the button  
394         exit.setGraphic(view1);  
395         //Set the image to the top  
396         exit.setContentDisplay(ContentDisplay.TOP);  
397         exit.setOnAction((e) -> this.game_selection(stage));
```

line 386~line 388: Create a button to exit the game and set its location on the pane.

line 390~ line 396: Set the picture of the exit button.

line 397: Set the function of the exit button, which is to turn back to the game selection page.

```

399     ImageView plateview = new ImageView(new Image("https://i.imgur.com/rqT5oNv.png"));
400     plateview.setLayoutX(15);
401     plateview.setLayoutY(15);
402     plateview.setPreserveRatio(true);
403
404     double[] points = { 200, 200.0d, 220.0d, 200.0d, 210.0d, 100d };
405     Polygon triangle = new Polygon(points);
406     triangle.setFill(Color.PINK);
407     triangle.setStroke(Color.WHITE);
408     triangle.setStrokeWidth(1);
409
410     Circle circleCenter = new Circle(25);
411     circleCenter.setLayoutX(210);
412     circleCenter.setLayoutY(205);
413     circleCenter.setStroke(Color.WHITE);
414     circleCenter.setFill(Color.rgb(243, 119, 119, .99));
415     circleCenter.setStrokeWidth(1);
416
417     pane.getChildren().addAll(start,exit,plateview);
418     pane.getChildren().addAll(triangle,circleCenter);

```

line 399~line 402: Set the picture of the wheel.

line 404~line 415: Draw the needle of the wheel.

line 417, line 418: Put all elements, start and exit button, wheel and its needle, into the pane.

And the following picture is the GUI of the spin the wheel.



The following code is the function of the start button:



```
419 start.setOnAction((e) -> {
420     Random r = new Random();
421     int x = r.nextInt( bound: 9);
422     //讀exe
423     try {
424         Runtime.getRuntime().exec( command: "beardplate.exe");
425     } catch (IOException ex) {
426         ex.printStackTrace();
427     }
428     try {
429         Thread.sleep( millis: 100);
430     } catch (InterruptedException ex) {
431         throw new RuntimeException(ex);
432     }
433     //讀txt
434     try {
435         BufferedReader br = new BufferedReader(new FileReader( fileName: "plate.txt"));
436         String str1;
437         str1 = br.readLine();
438         prize = (parseInt (str1)+x)%9+1;
439         System.out.println(prize);
440     } catch (IOException ex) {
```

line 423~line 432: Read the asm file.

We use the exec() method in the Runtime class to read the asm file, so that the content in “plate.txt” will change after reading the file.

line 434 ~ line 442: Read the txt file.

We use BufferedReader and FileReader to read the txt file. Then, we use the readLine() method in BufferedReader class to read a line in “plate.txt” and a variable str1 to store the content in a txt file.

```

441         ex.printStackTrace();
442     }
443     //獎勵
444     if(prize == 1){
445         // -6cm
446         size = size -30;
447     }
448     else if(prize == 2){
449         size = size -20;
450     }
451     else if(prize == 3){
452         size+=15;
453     }
454     else if(prize == 4){
455         ldr_beard = ldr_beard1;
456     }
457     else if(prize == 5){
458         size-=10;
459     }
460     else if(prize == 6){
461         ldr_beard = ldr_beard2;
462     }
463     else if(prize == 7){
464         size+=25;
465     }
466     else if(prize == 8){
467         ldr_beard = ldr_beard3;
468     }
469     else if(prize == 9){
470         size+=5;
471     }
472     System.out.println(size);
473
474     //轉動轉盤
475     //播放持續時間
476     double play_time=3.0;
477     //開始角度
478     double fromAngle=0.0;
479     //結束角度
480     double angle = 0;
481     if(prize<lastprize){
482         angle = 9-lastprize + prize;
483     }
484     else{
485         angle = Math.abs(prize-lastprize);
486     }
487     double toAngle= fromAngle + 40 * angle;
488     lastprize = prize;

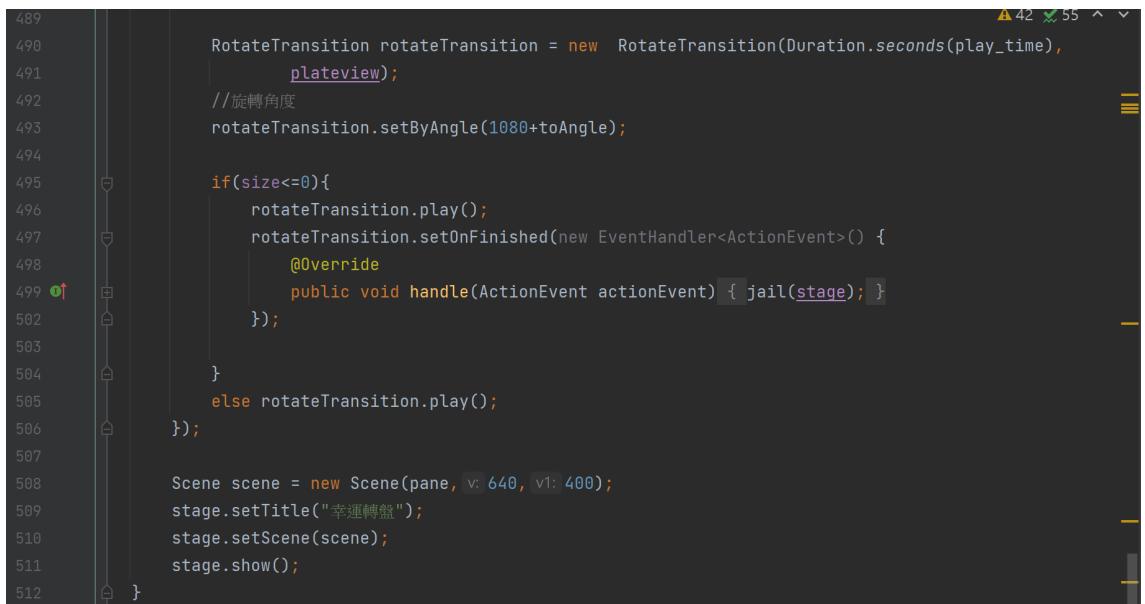
```

line 444~line471: Set each result.

We have 9 results in total, which are to increase the length of the beard, to reduce the length of the beard, and to change the shape of the beard.

line476~line 488: Set the parameter of rotation animation.

We have a problem with how to get the rotation to the right place at first. Our solution is to set a new variable lastprize to record the last angle, so that we can get the angle to rotate.



```
489     RotateTransition rotateTransition = new RotateTransition(Duration.seconds(play_time),
490             plateview);
491             //旋转角度
492             rotateTransition.setByAngle(1080+toAngle);
493
494         if(size<=0){
495             rotateTransition.play();
496             rotateTransition.setOnFinished(new EventHandler<ActionEvent>() {
497                 @Override
498                 public void handle(ActionEvent actionEvent) { jail(stage); }
499             });
500         }
501         else rotateTransition.play();
502     });
503
504     Scene scene = new Scene(pane, 640, 400);
505     stage.setTitle("幸運轉盤");
506     stage.setScene(scene);
507     stage.show();
508 }
```

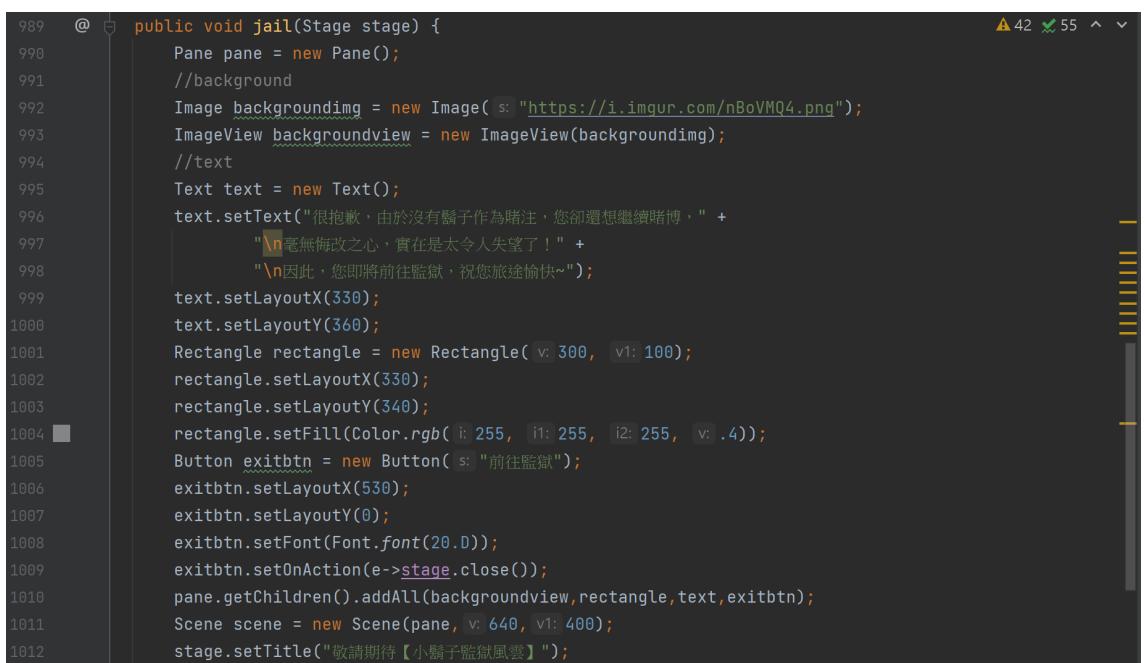
line 490 ~ line 506: Set the animation of the wheel rotation.

We use the `rotateTransition` class in JavaFX. The parameter is the time to play animation and the object to rotate. Line 493 is to make the wheel go round more.

line 495 ~ line506: The game is over if we have no beard.

We use the `setOnFinished` method in `javafx.animation.Timeline`. If the beard size is less than or equal to 0, the stage will turn to the jail page.

Bad End: Go to Jail



```
989     @
990     public void jail(Stage stage) {
991         Pane pane = new Pane();
992         //background
993         Image backgroundimg = new Image( s: "https://i.imgur.com/nBoVMQ4.png");
994         ImageView backgroundview = new ImageView(backgroundimg);
995         //text
996         Text text = new Text();
997         text.setText("很抱歉，由於沒有鬍子作為賭注，您卻還想繼續賭博，" +
998             "\n毫無悔改之心，實在是太令人失望了！" +
999             "\n因此，您即將前往監獄，祝您旅途愉快~");
1000         text.setLayoutX(330);
1001         text.setLayoutY(360);
1002         Rectangle rectangle = new Rectangle( v: 300,  vi: 100);
1003         rectangle.setLayoutX(330);
1004         rectangle.setLayoutY(340);
1005         rectangle.setFill(Color.rgb( i: 255,  ii: 255,  iii: 255,  vi: .4));
1006         Button exitbtn = new Button( s: "前往監獄");
1007         exitbtn.setLayoutX(530);
1008         exitbtn.setLayoutY(0);
1009         exitbtn.setFont(Font.font(20.0));
1010         exitbtn.setOnAction(e->stage.close());
1011         pane.getChildren().addAll(backgroundview,rectangle,text,exitbtn);
1012         Scene scene = new Scene(pane, 640, 400);
1013         stage.setTitle("敬請期待【小鬍子監獄風雲】")
```

```
1013     stage.setScene(scene);
1014     stage.show();
1015 }
1016 }
```

line 990: Set a pane.

line 992 ~ line 993: Set background image.

line 995 ~ line 1004: Set the content to inform the player that the game is over and why the game is over.

line 1005 ~ line 1009: Set the exit button.

line 1009 is the function of this exit button, which is to end the whole program.

line 1010: Put all elements, the background image, the exit button, and the content, into the pane.

line 1011 ~ line 1014: Show the stage.

The following picture is the GUI of the jail page.

