Pemrograman Berorientasi Objek

INF3213

Projek UAS:

MARIO BROSS

Oleh :

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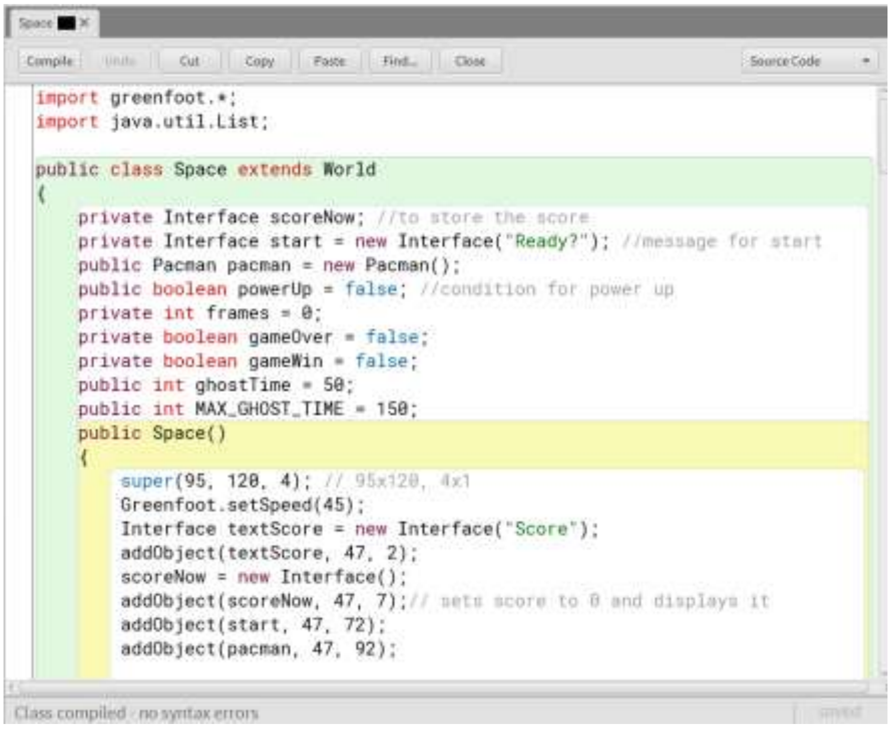
Samarinda, 2023

UAS PBO : Mario Bross

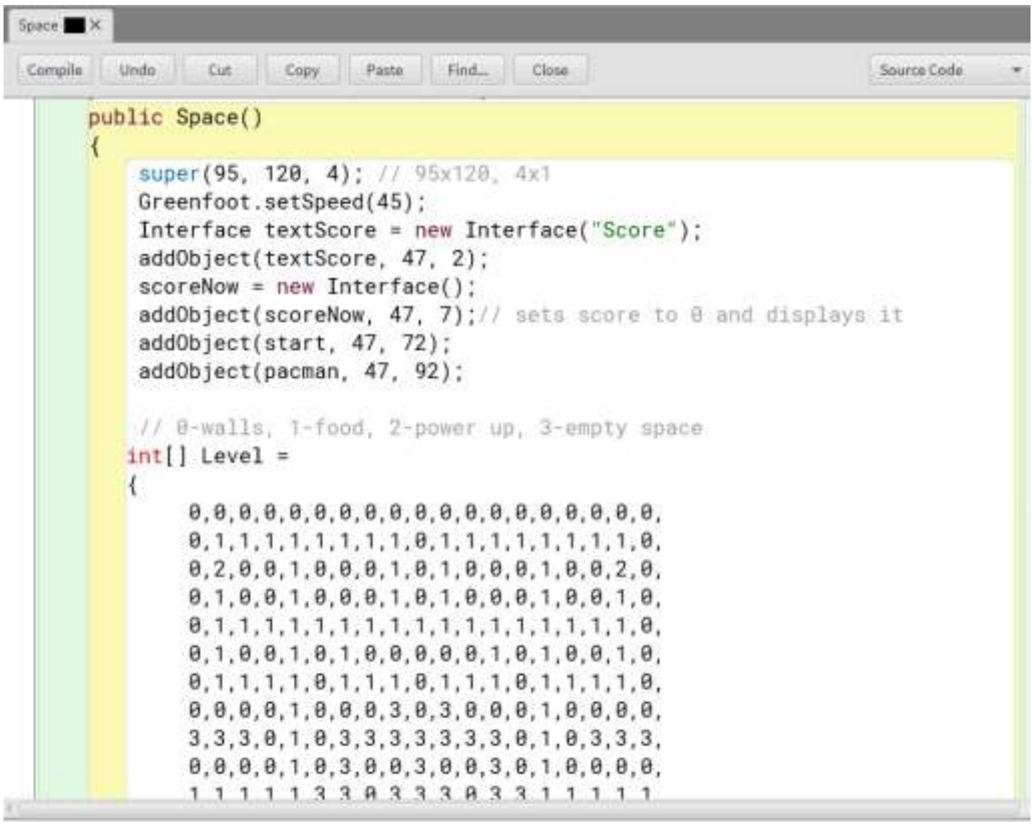
World class



```java
import greenfoot.*;
import java.util.List;

public class Space extends World
{
    private Interface scoreNow; //to store the score
    private Interface start = new Interface("Ready?"); //message for start
    public Pacman pacman = new Pacman();
    public boolean powerUp = false; //condition for power up
    private int frames = 0;
    private boolean gameOver = false;
    private boolean gameWin = false;
    public int ghostTime = 50;
    public int MAX_GHOST_TIME = 150;
    public Space()
    {
        super(95, 120, 4); // 95x120, 4x1
        Greenfoot.setSpeed(45);
        Interface textScore = new Interface("Score");
        addObject(textScore, 47, 2);
        scoreNow = new Interface();
        addObject(scoreNow, 47, 7);// sets score to 0 and displays it
        addObject(start, 47, 72);
        addObject(pacman, 47, 92);
```

Class compiled - no syntax errors



```java
    public Space()
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        super(95, 120, 4); // 95x120, 4x1
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        Interface textScore = new Interface("Score");
        addObject(textScore, 47, 2);
        scoreNow = new Interface();
        addObject(scoreNow, 47, 7);// sets score to 0 and displays it
        addObject(start, 47, 72);
        addObject(pacman, 47, 92);

        // 0-walls, 1-food, 2-power up, 3-empty space
       int[] Level =
       {
              0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
              0,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,0,
              0,2,0,0,1,0,0,0,1,0,1,0,0,0,1,0,0,2,0,
              0,1,0,0,1,0,0,0,1,0,1,0,0,0,1,0,0,1,0,
              0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,
              0,1,0,0,1,0,1,0,0,0,0,0,1,0,1,0,0,1,0,
              0,1,1,1,1,0,1,1,1,0,1,1,1,0,1,1,1,1,0,
              0,0,0,0,1,0,0,0,3,0,3,0,0,0,1,0,0,0,0,
              3,3,3,0,1,0,3,3,3,3,3,3,3,0,1,0,3,3,3,
              0,0,0,0,1,0,3,0,0,3,0,0,3,0,1,0,0,0,0,
              1,1,1,1,1,3,3,0,3,3,3,0,3,3,1,1,1,1,1
```
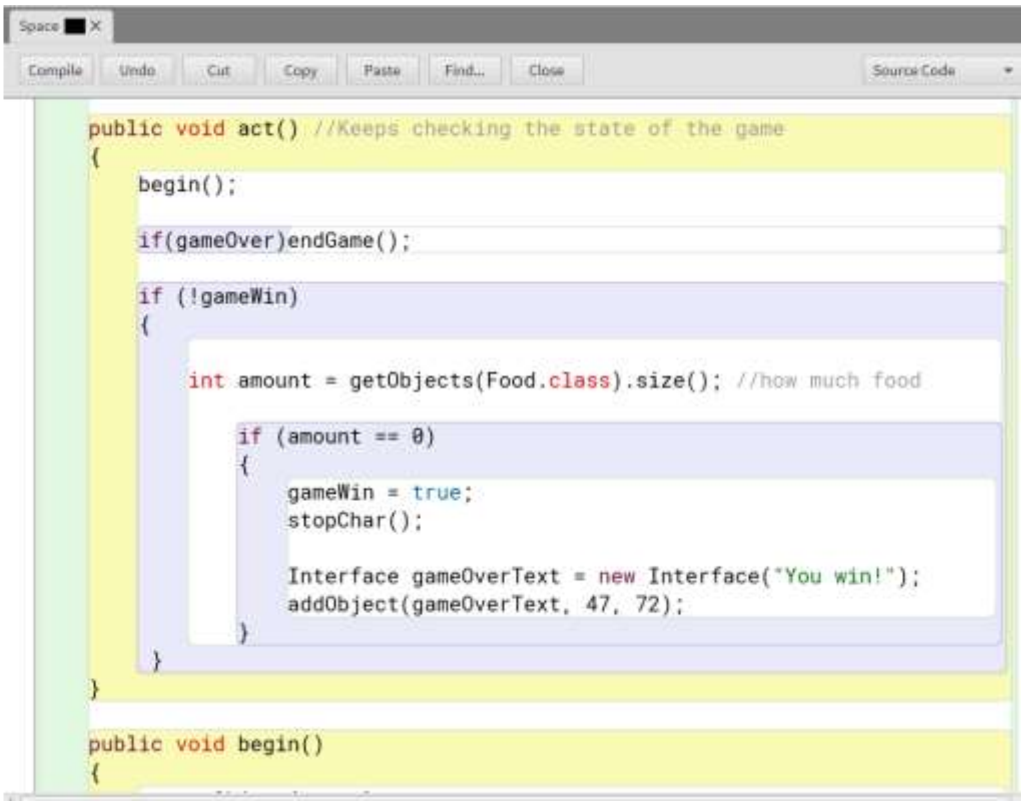
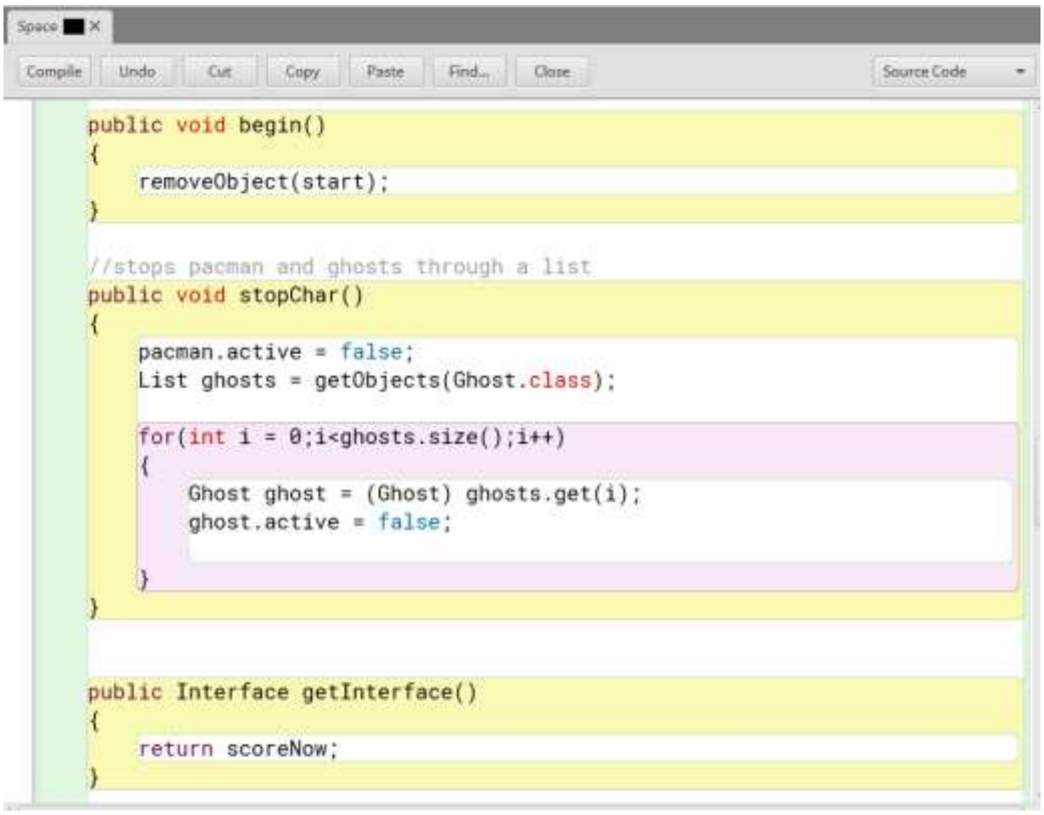
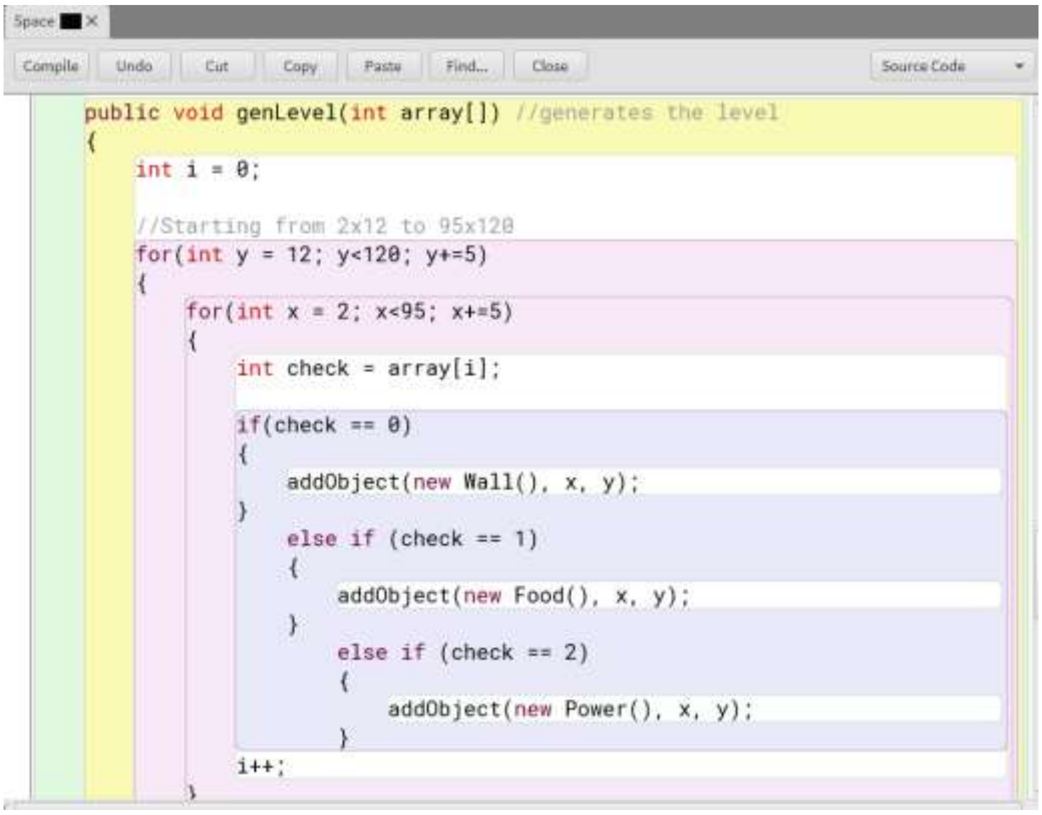



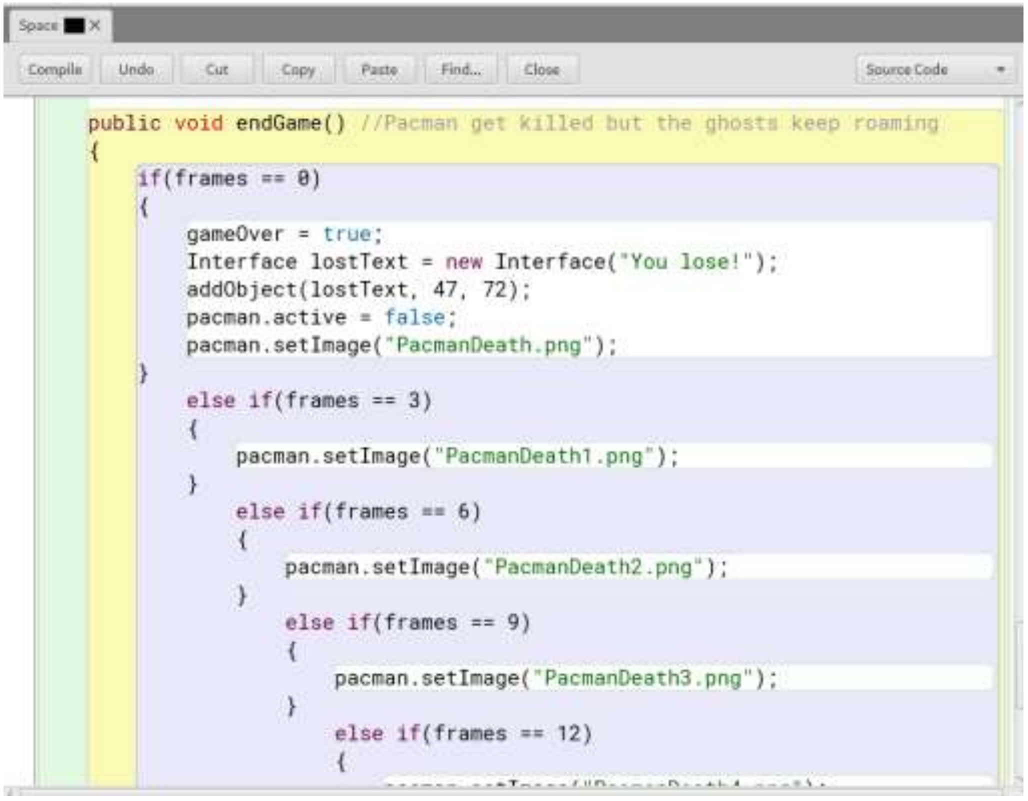
```
public void act() //Keeps checking the state of the game
{
    begin();

    if(gameOver)endGame();

    if (!gameWin)
    {
        int amount = getObjects(Food.class).size(); //how much food

            if (amount == 0)
            {
                gameWin = true;
                stopChar();

                Interface gameOverText = new Interface("You win!");
                addObject(gameOverText, 47, 72);
            }
     }
}

public void begin()
{
```



```
public void begin()
{
    removeObject(start);
}

//stops pacman and ghosts through a list
public void stopChar()
{
    pacman.active = false;
    List ghosts = getObjects(Ghost.class);

    for(int i = 0;i<ghosts.size();i++)
    {
        Ghost ghost = (Ghost) ghosts.get(i);
        ghost.active = false;

    }
}


public Interface getInterface()
{
    return scoreNow;
}
```



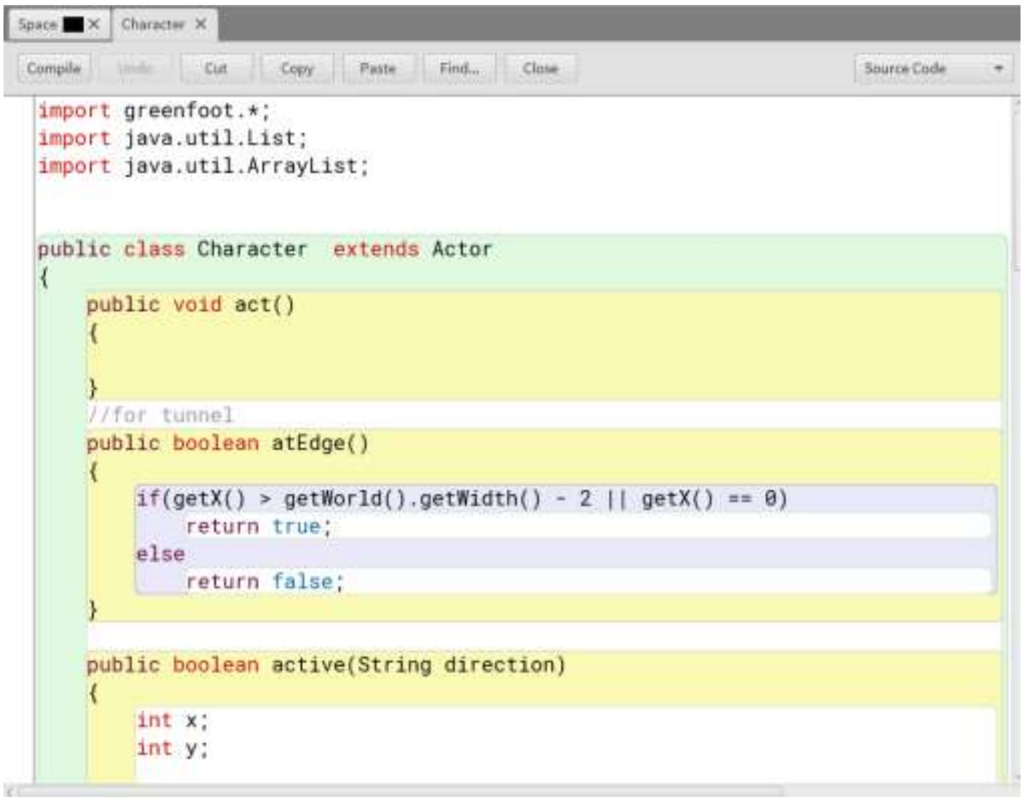
```java
public void genLevel(int array[]) //generates the level
{
    int i = 0;

    //Starting from 2x12 to 95x120
    for(int y = 12; y<120; y+=5)
    {
        for(int x = 2; x<95; x+=5)
        {
            int check = array[i];

            if(check == 0)
            {
                addObject(new Wall(), x, y);
            }
                else if (check == 1)
                {
                    addObject(new Food(), x, y);
                }
                    else if (check == 2)
                    {
                        addObject(new Power(), x, y);
                    }
            i++;
        }
```



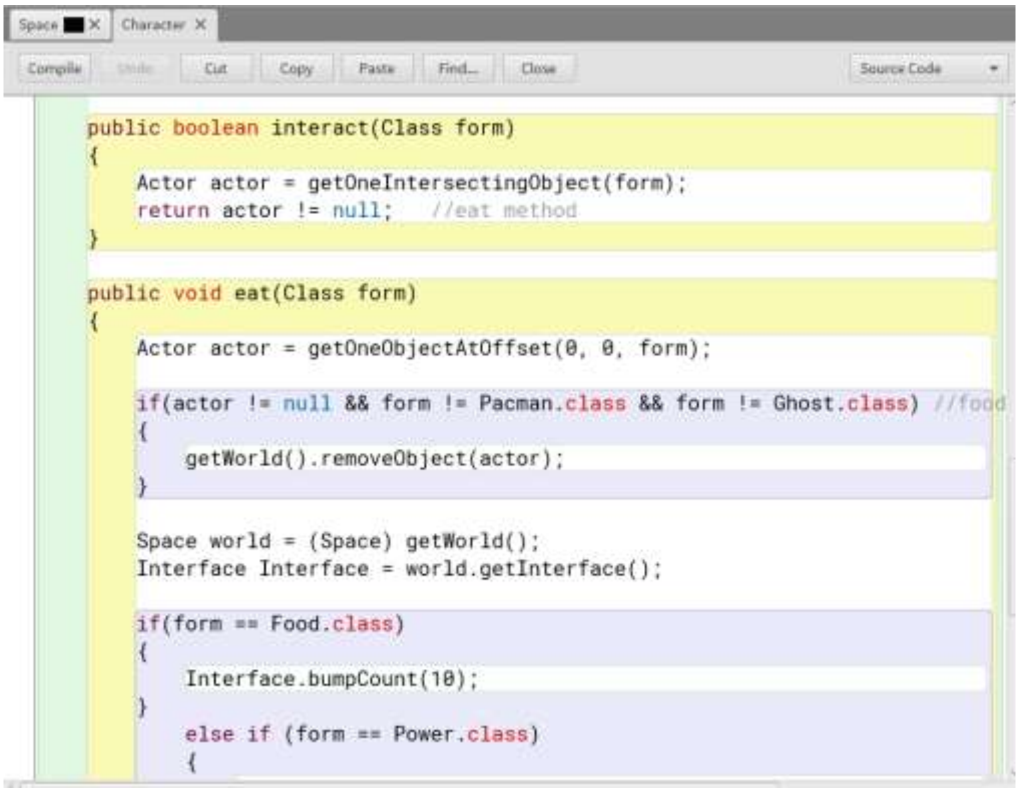
```java
public void endGame() //Pacman get killed but the ghosts keep roaming
{
    if(frames == 0)
    {
        gameOver = true;
        Interface lostText = new Interface("You lose!");
        addObject(lostText, 47, 72);
        pacman.active = false;
        pacman.setImage("PacmanDeath.png");
    }
        else if(frames == 3)
        {
            pacman.setImage("PacmanDeath1.png");
        }
            else if(frames == 6)
            {
                pacman.setImage("PacmanDeath2.png");
            }
                else if(frames == 9)
                {
                    pacman.setImage("PacmanDeath3.png");
                }
                    else if(frames == 12)
                    {
```

Actor Class

a. Character

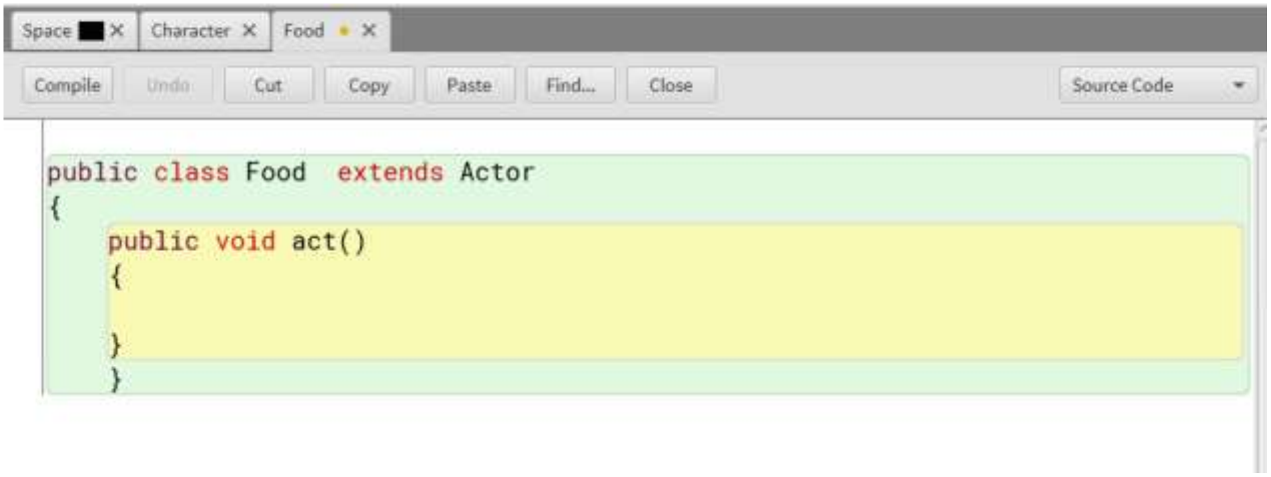


```java
import greenfoot.*;
import java.util.List;
import java.util.ArrayList;


public class Character  extends Actor
{
    public void act()
    {

    }
    //for tunnel
    public boolean atEdge()
    {
        if(getX() > getWorld().getWidth() - 2 || getX() == 0)
            return true;
        else
            return false;
    }

    public boolean active(String direction)
    {
        int x;
        int y;
```



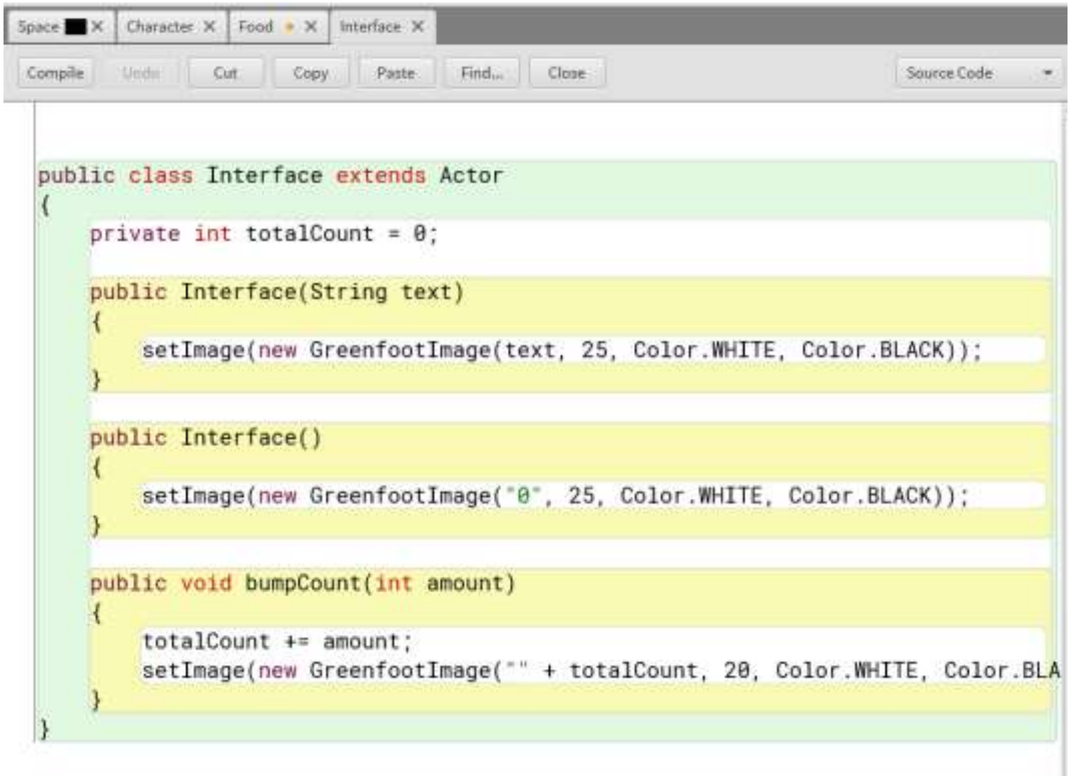
```java
    public boolean interact(Class form)
    {
        Actor actor = getOneIntersectingObject(form);
        return actor != null;   //eat method
    }

    public void eat(Class form)
    {
        Actor actor = getOneObjectAtOffset(0, 0, form);

        if(actor != null && form != Pacman.class && form != Ghost.class) //food
        {
            getWorld().removeObject(actor);
        }

        Space world = (Space) getWorld();
        Interface Interface = world.getInterface();

        if(form == Food.class)
        {
            Interface.bumpCount(10);
        }
            else if (form == Power.class)
            {
```

b. Food



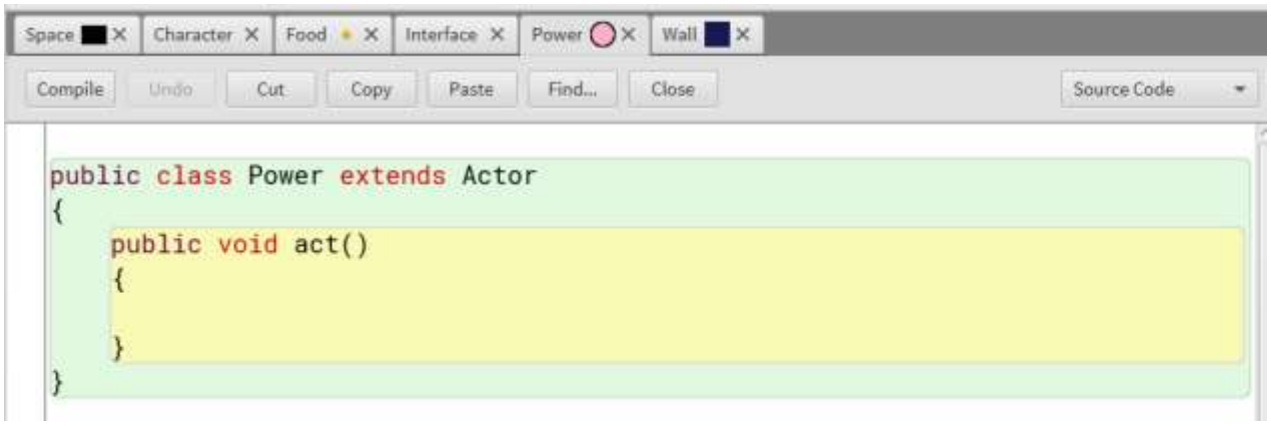
```
public class Food  extends Actor
{
    public void act()
    {

    }
}
```

c. Interface



```
public class Interface extends Actor
{
    private int totalCount = 0;

    public Interface(String text)
    {
        setImage(new GreenfootImage(text, 25, Color.WHITE, Color.BLACK));
    }

    public Interface()
    {
        setImage(new GreenfootImage("0", 25, Color.WHITE, Color.BLACK));
    }

    public void bumpCount(int amount)
    {
        totalCount += amount;
        setImage(new GreenfootImage("" + totalCount, 20, Color.WHITE, Color.BLA
    }
}
```

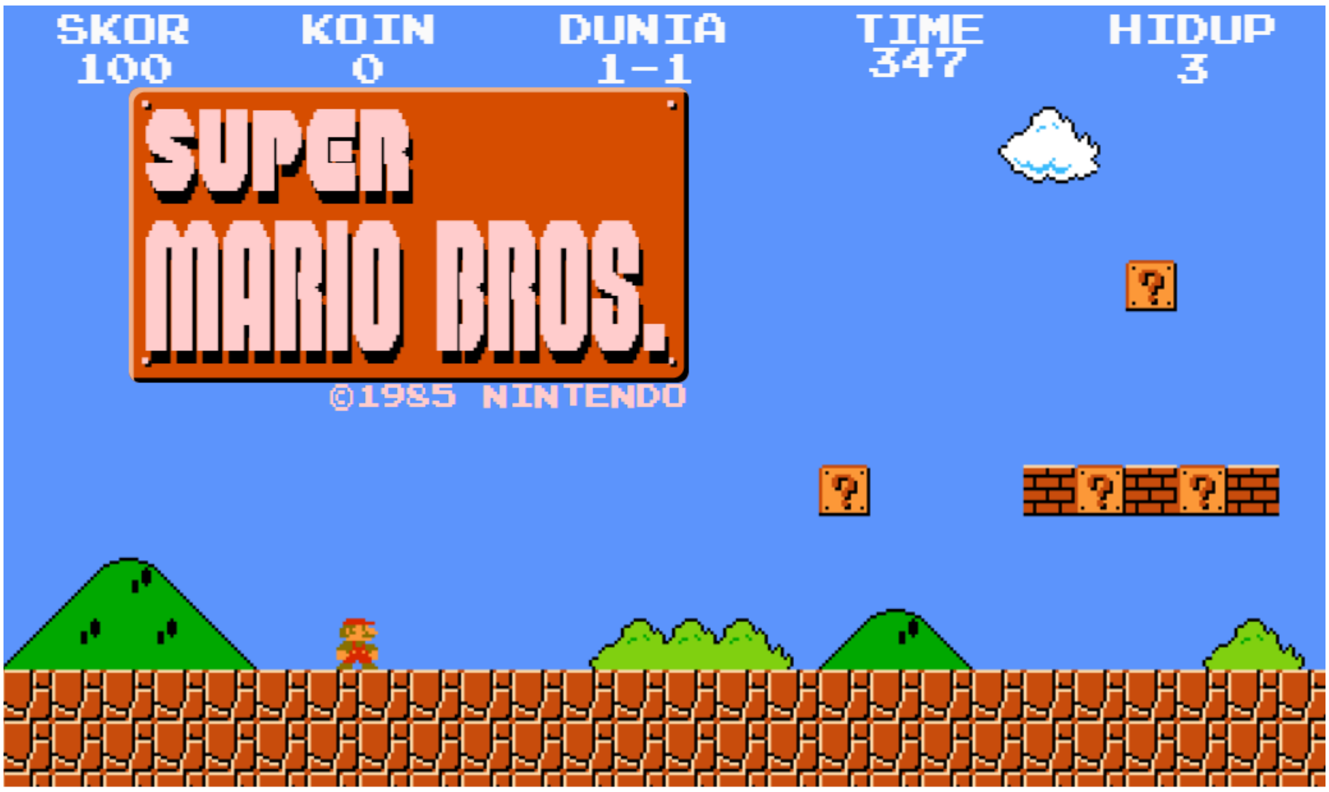
c. Power



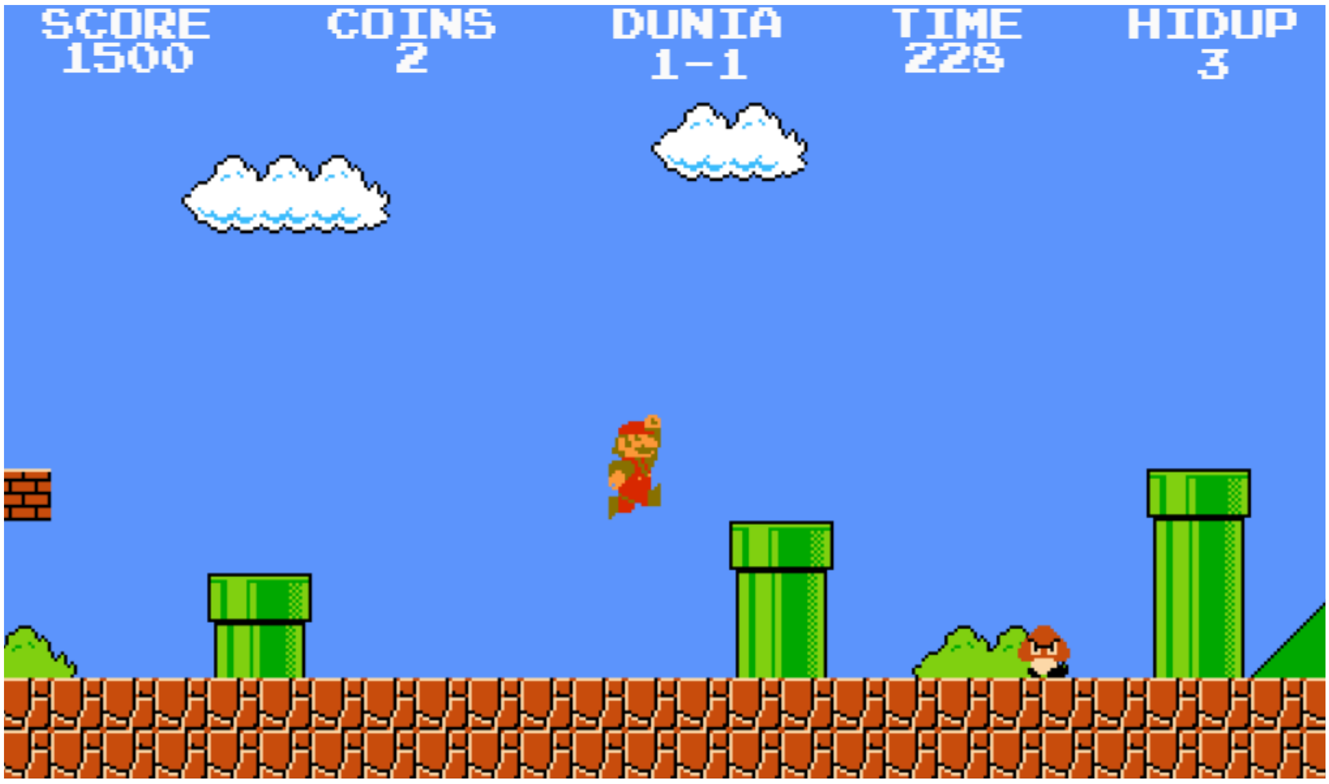
```
public class Power extends Actor
{
    public void act()
    {

    }
}
```

TAMPILAN

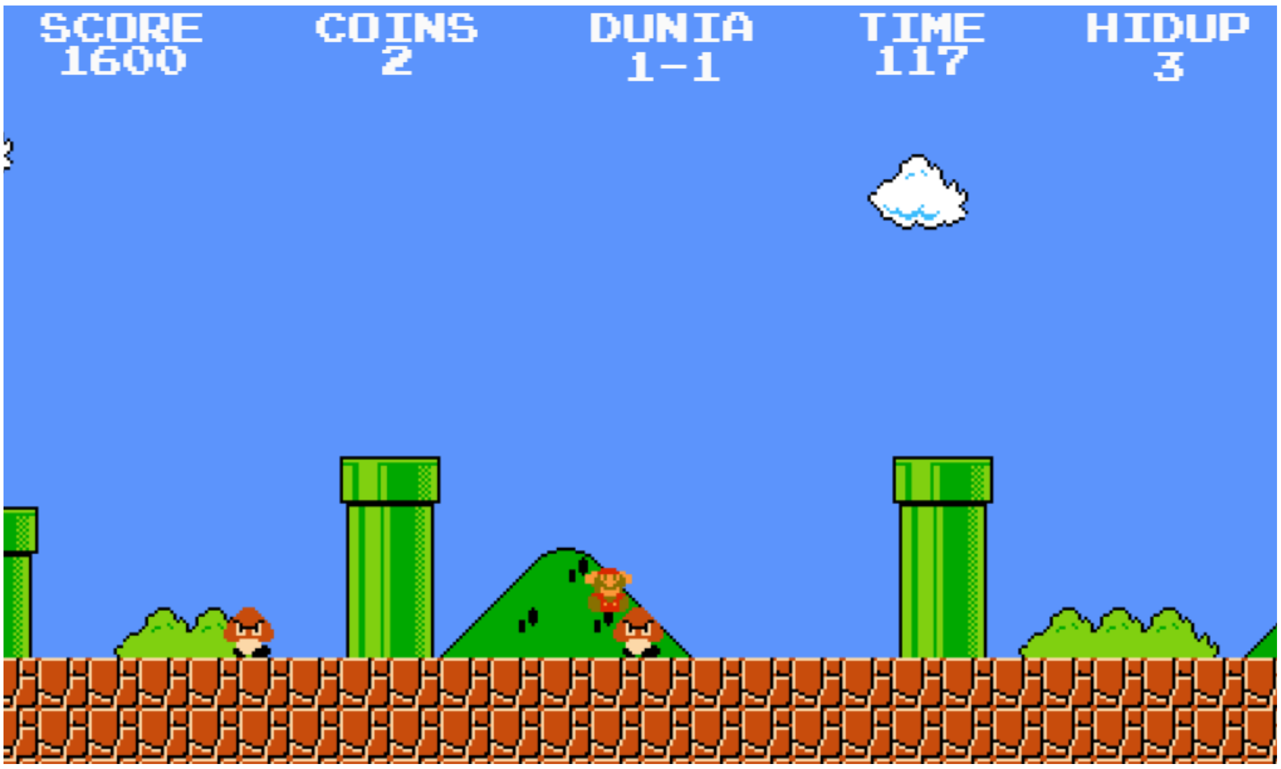
a. Tampilan awal



b. Ketika dijalankan



c. Ketika game over


SCORE
1600
COINS
2
DUNIA
1-1
TIME
117
HIDUP
3