

Tugas Akhir Semester Genap
Pemograman Visual
Pembuatan Game Menggunakan Greenfoot



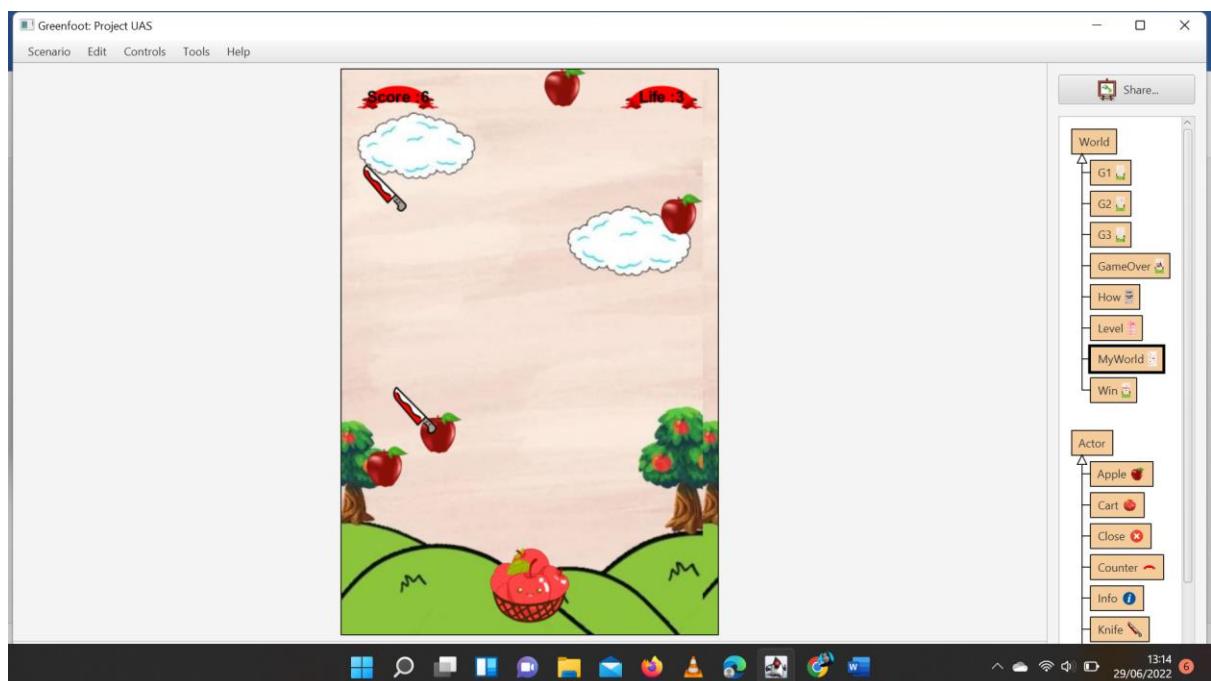
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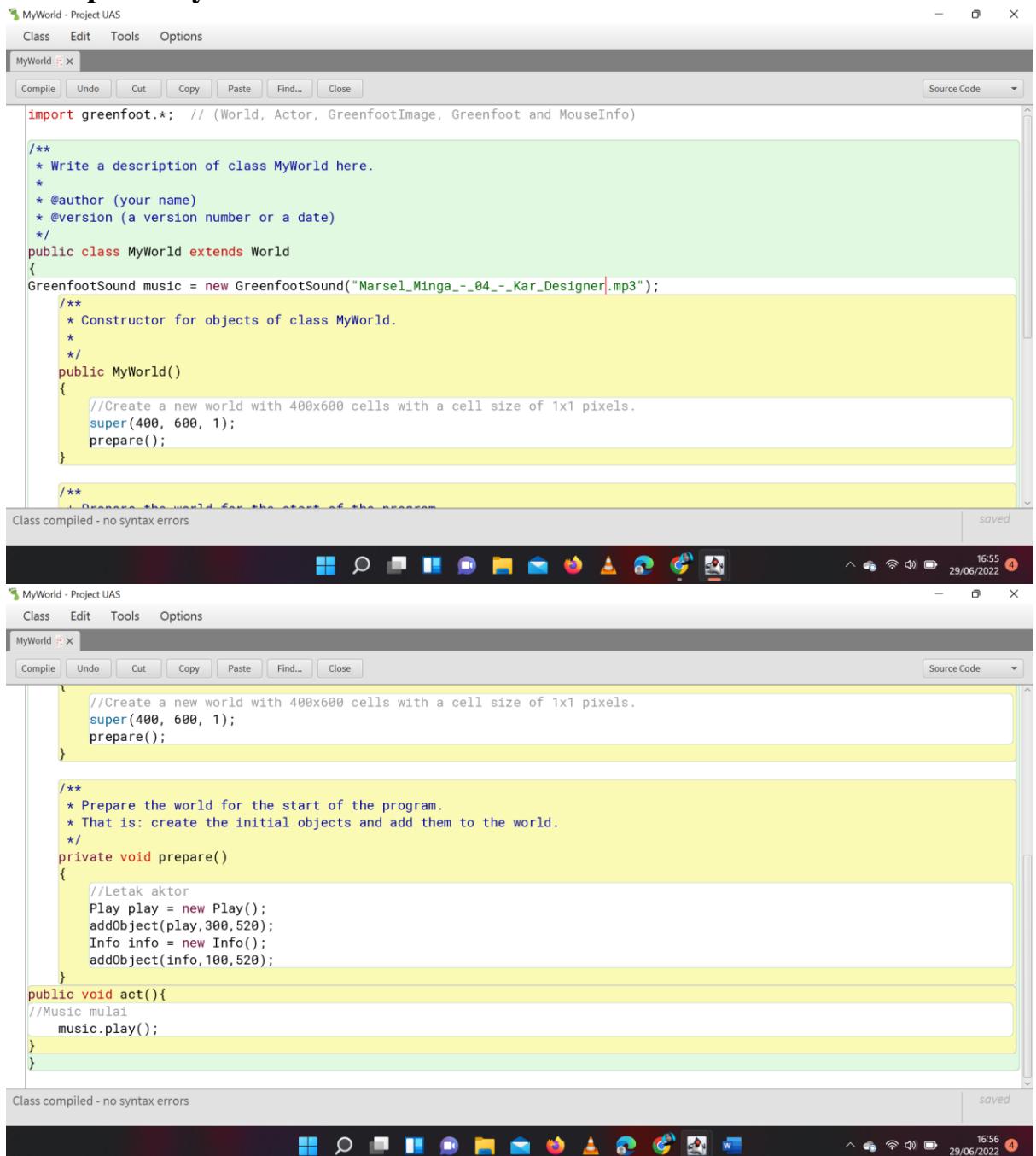
Pada Project Akhir Semester 2 kali ini kami membuat sebuah game yang kami beri nama “My Apple”. My Apple adalah sebuah game yang cara bermainnya dengan cara menekan keyboard laptop atau komputer panah kanan dan kiri untuk menggerakkan karakter agar dapat menangkap apel yang jatuh. Berikut ini adalah skenario yang kami terapkan :

1. Objek bernama My Apple dapat bergerak kekanan dan kiri dengan menekan panah kanan dan kiri pada keyboard laptop atau komputer.
2. My Apple mencoba menangkap apel yang jatuh.
3. Jika menangkap pisau yang jatuh maka nyawa My Apple akan berkurang satu.
4. Dengan menangkap apel yang banyak makan My Apple akan mendapatkan score dan menang.
5. Namun jika menangkap banyak pisau sebanyak 3 kali, maka My Apple akan kalah atau Game Over.

Berikut adalah tampilan saat bermain game My Apple :



1. Kode pada MyWorld



```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class MyWorld here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class MyWorld extends World
{
    GreenfootSound music = new GreenfootSound("Marsel_Minga_-_04_-_Kar_Designer.mp3");

    /**
     * Constructor for objects of class MyWorld.
     */
    public MyWorld()
    {
        //Create a new world with 400x600 cells with a cell size of 1x1 pixels.
        super(400, 600, 1);
        prepare();
    }

    /**
     * Prepares the world for the start of the program.
     */
    private void prepare()
    {
        //Letak aktor
        Play play = new Play();
        addObject(play, 300, 520);
        Info info = new Info();
        addObject(info, 100, 520);
    }

    public void act()
    {
        //Music mulai
        music.play();
    }
}
```

Class compiled - no syntax errors

Kode GreenfootSound digunakan untuk menambahkan sound atau music pada game, dalam MyWorld terdapat simbol Play yang berfungsi untuk memulai game dan simbol Info yang digunakan untuk pindah ke world How yang berisi cara memainkan game My Apple.

2. Kode pada World G1

G1 - Project UAS

Class Edit Tools Options

G1 X

Compile Undo Cut Copy Paste Find... Close Source Code

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class G1 here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class G1 extends World
{
    //Menambahkan score
    static Counter score = new Counter ("Score :");
    static Counter life = new Counter ("Life :");
    /**
     * Constructor for objects of class Game.
     */
    public G1()
    {
        // Create a new world with 400x600 cells with a cell size of 1x1 pixels.
        super(400, 600, 1);
        prepare();
    }
}
```

Class compiled - no syntax errors saved

12:59 29/06/2022

G1 - Project UAS

Class Edit Tools Options

G1 X

Compile Undo Cut Copy Paste Find... Close Source Code

```
private void prepare()
{
    //Letak aktor
    Cart cart = new Cart();
    addObject(cart,193,545);
    cart.setLocation(200,548);

    //Letak score dan life
    addObject(score, 60, 30);
    addObject(life, 340, 30);

    //Banyak score dan life
    score.setValue(0);
    life.setValue(3);
}

public void act()
{
    //Mengeluarkan apple atau knife dengan random
    if(Greenfoot.getRandomNumber(500)<6){
        addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);
    }
}
```

Class compiled - no syntax errors saved

12:59 29/06/2022

The screenshot shows the Greenfoot IDE interface with the title bar "G1 - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". A toolbar below the menu has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". On the right, a "Source Code" dropdown is open. The code editor contains Java-like pseudocode:

```
if(Greenfoot.getRandomNumber(500)<2){  
    addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);  
}  
  
if(Greenfoot.getRandomNumber(500)<4){  
    addObject(new Knife(), Greenfoot.getRandomNumber(600), 10);  
}  
  
if(Greenfoot.getRandomNumber(500)<1){  
    addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);  
}  
  
//Total score=20 masuk world win  
if(G1.score.getValue()==20)  
{  
    Greenfoot.setWorld(new Win());  
}  
//Total life=0 masuk world GameOver  
if(G1.life.getValue()==0)  
{  
    Greenfoot.setWorld(new GameOver());  
}
```

Below the code editor, a status bar says "Class compiled - no syntax errors". The system tray at the bottom shows various icons and the date/time "29/06/2022 13:00".

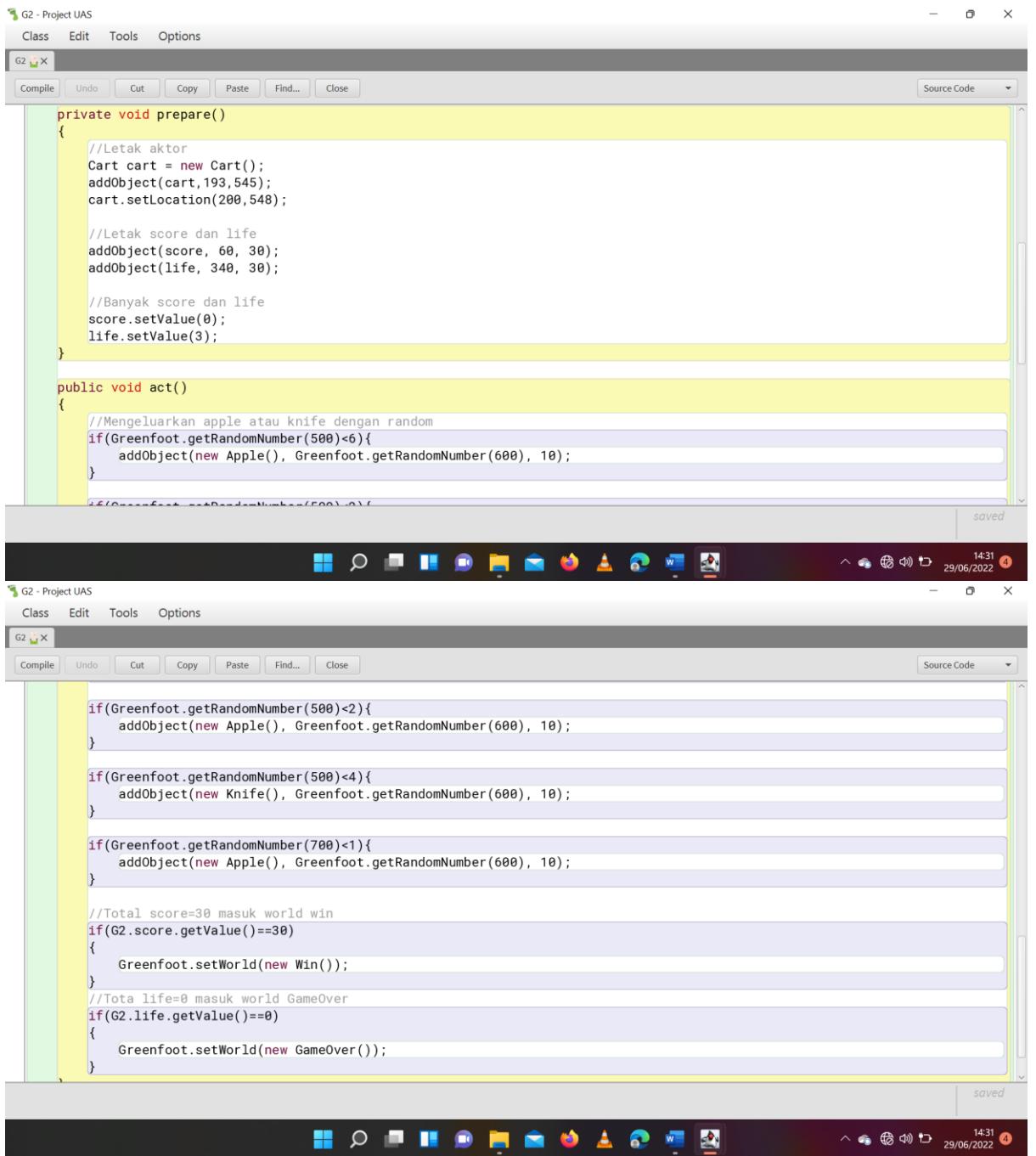
Kode diatas digunakan untuk membuat actor apple dan knife bergerak turun secara random. Dalam world G1 atau level easy akan masuk ke world Win apabila score mencapai 20 dan akan berpindah ke world GameOver apabila life bernilai 0.

3. Kode pada world G2

The screenshot shows the Greenfoot IDE interface with the title bar "G2 - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". A toolbar below the menu has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". On the right, a "Source Code" dropdown is open. The code editor contains Java-like pseudocode:

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)  
  
/**  
 * Write a description of class G2 here.  
 *  
 * @author (your name)  
 * @version (a version number or a date)  
 */  
public class G2 extends World  
{  
    //Menambahkan score  
    static Counter score = new Counter ("Score :");  
    static Counter life = new Counter ("Life :");  
    /**  
     * Constructor for objects of class Game.  
     *  
     */  
    public G2()  
    {  
        // Create a new world with 400x600 cells with a cell size of 1x1 pixels.  
        super(400, 600, 1);  
        prepare();  
    }  
}
```

Below the code editor, a status bar says "Class compiled - no syntax errors". The system tray at the bottom shows various icons and the date/time "29/06/2022 14:30".



```

private void prepare()
{
    //Letak aktor
    Cart cart = new Cart();
    addObject(cart, 193, 545);
    cart.setLocation(200, 548);

    //Letak score dan life
    addObject(score, 60, 30);
    addObject(life, 340, 30);

    //Banyak score dan life
    score.setValue(0);
    life.setValue(3);
}

public void act()
{
    //Mengeluarkan apple atau knife dengan random
    if(Greenfoot.getRandomNumber(500)<6){
        addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);
    }

    if(Greenfoot.getRandomNumber(500)<2){
        addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);
    }

    if(Greenfoot.getRandomNumber(500)<4){
        addObject(new Knife(), Greenfoot.getRandomNumber(600), 10);
    }

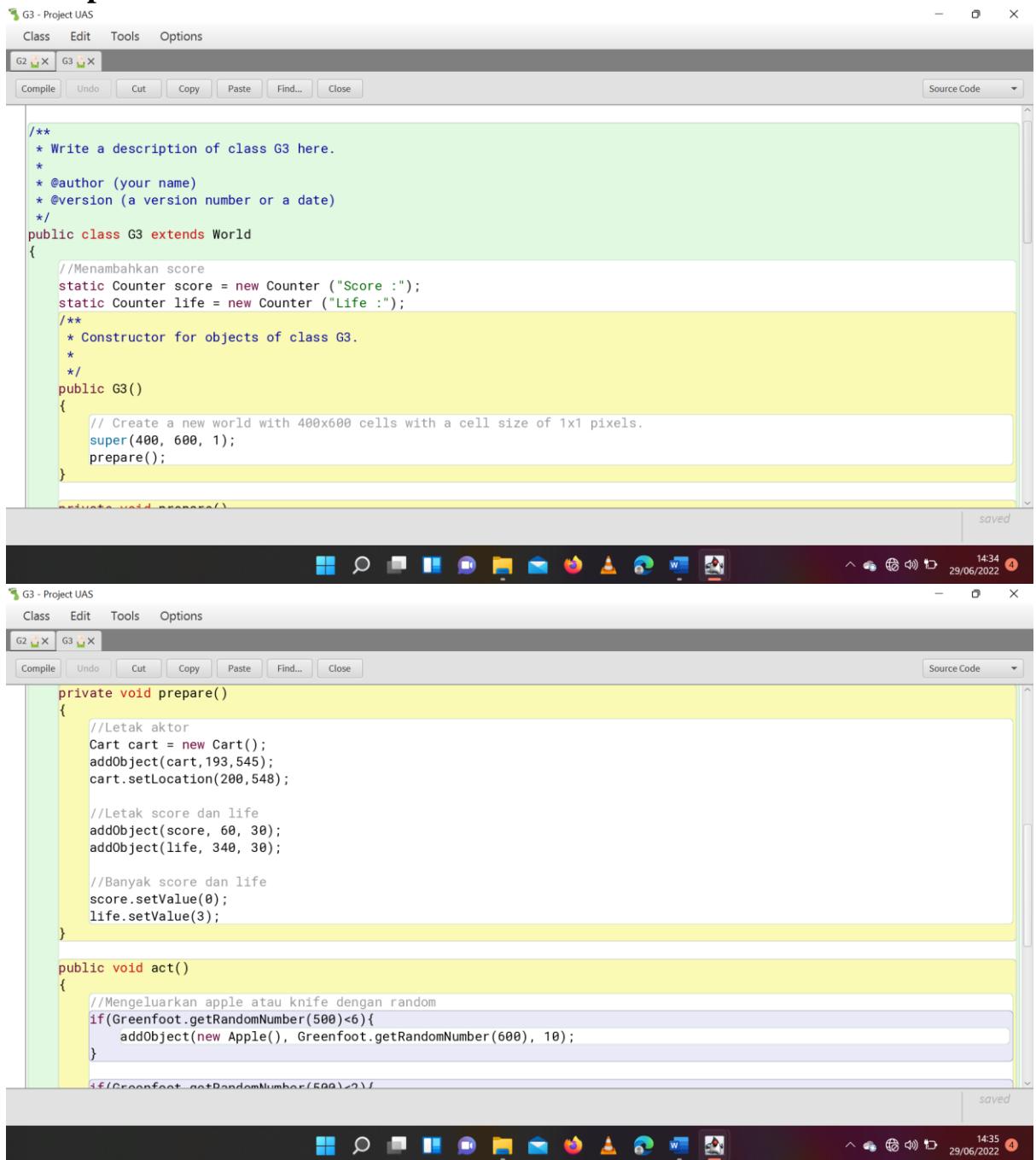
    if(Greenfoot.getRandomNumber(700)<1){
        addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);
    }

    //Total score=30 masuk world win
    if(G2.score.getValue()==30)
    {
        Greenfoot.setWorld(new Win());
    }
    //Total life=0 masuk world GameOver
    if(G2.life.getValue()==0)
    {
        Greenfoot.setWorld(new GameOver());
    }
}

```

Kode diatas digunakan untuk membuat actor apple dan knife bergerak turun secara random. Dalam world G2 atau level medium akan masuk ke world Win apabila score mencapai 30 dan akan berpindah ke world GameOver apabila life bernilai 0.

4. Kode pada world G3



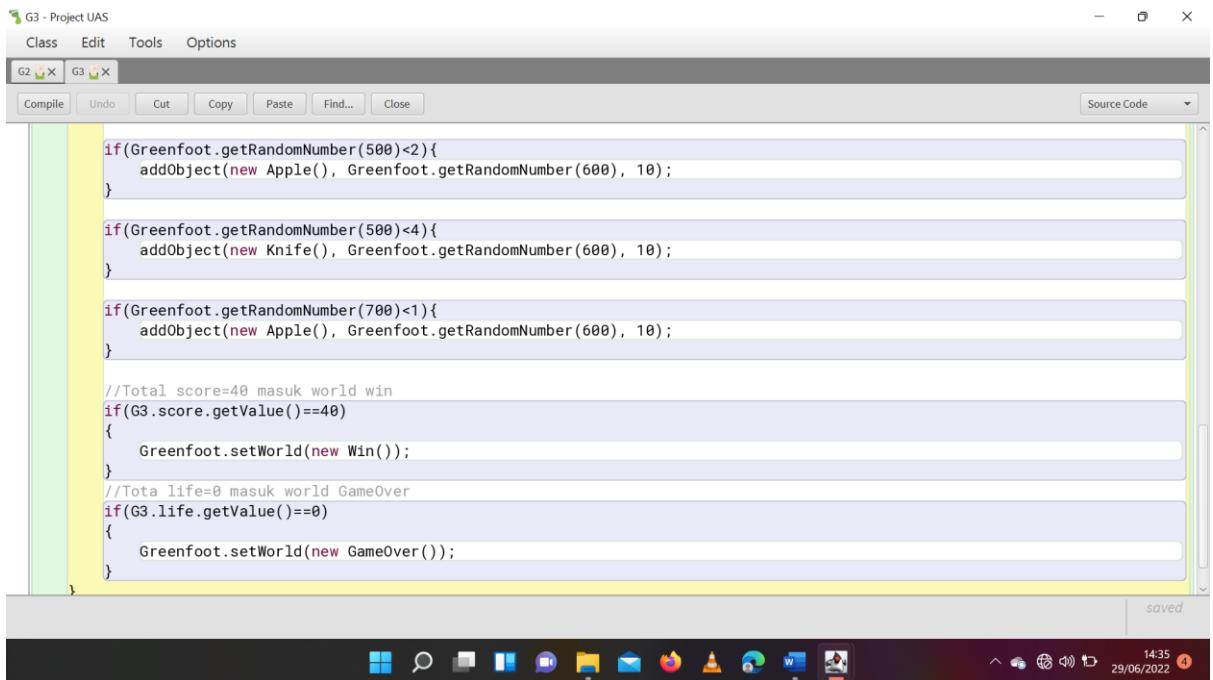
The image shows two vertically stacked windows of the Greenfoot IDE, both titled "G3 - Project UAS". Each window has a menu bar with "Class", "Edit", "Tools", and "Options". Below the menu is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown menu is also present.

The top window displays the beginning of the G3 class:

```
/**  
 * Write a description of class G3 here.  
 *  
 * @author (your name)  
 * @version (a version number or a date)  
 */  
public class G3 extends World  
{  
    //Menambahkan score  
    static Counter score = new Counter ("Score :");  
    static Counter life = new Counter ("Life :");  
    /**  
     * Constructor for objects of class G3.  
     *  
     */  
    public G3()  
    {  
        // Create a new world with 400x600 cells with a cell size of 1x1 pixels.  
        super(400, 600, 1);  
        prepare();  
    }  
    public void prepare()
```

The bottom window displays the implementation of the prepare() and act() methods:

```
private void prepare()  
{  
    //Letak aktor  
    Cart cart = new Cart();  
    addObject(cart, 193, 545);  
    cart.setLocation(200, 548);  
  
    //Letak score dan life  
    addObject(score, 60, 30);  
    addObject(life, 340, 30);  
  
    //Banyak score dan life  
    score.setValue(0);  
    life.setValue(3);  
}  
  
public void act()  
{  
    //Mengeluarkan apple atau knife dengan random  
    if(Greenfoot.getRandomNumber(500)<6){  
        addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);  
    }  
    if(Greenfoot.getRandomNumber(500)<2){
```



G3 - Project UAS

Class Edit Tools Options

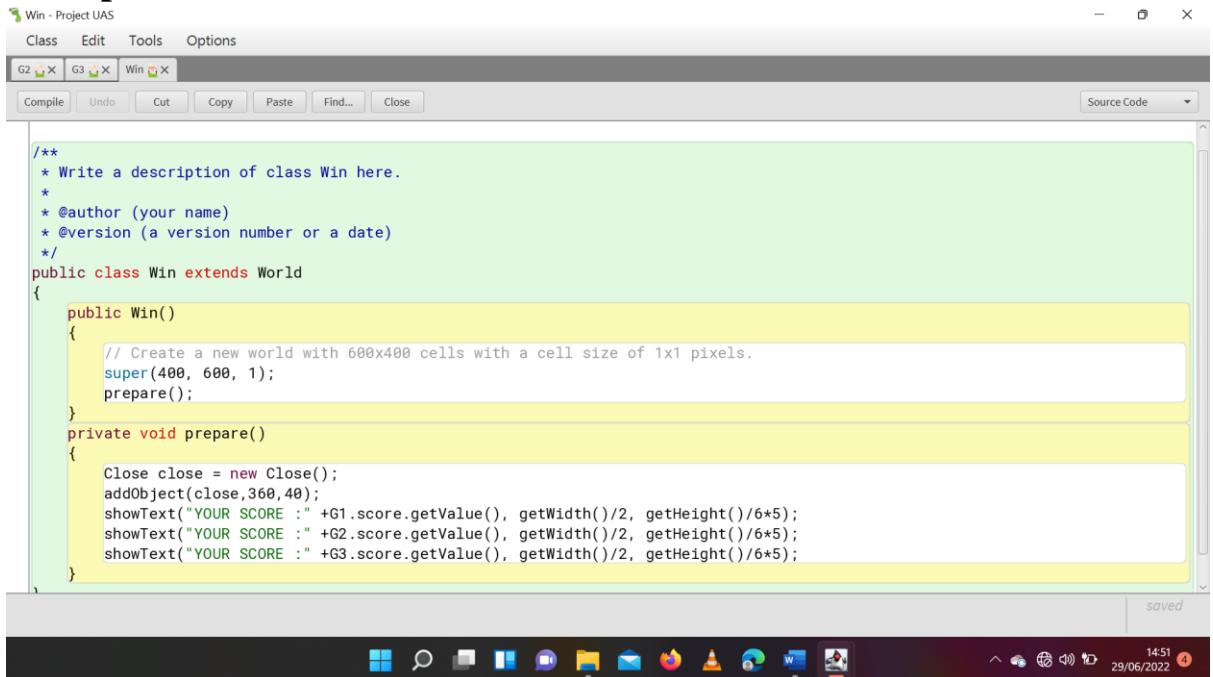
G2 X G3 X

Compile Undo Cut Copy Paste Find... Close Source Code

```
if(Greenfoot.getRandomNumber(500)<2){  
    addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);  
}  
  
if(Greenfoot.getRandomNumber(500)<4){  
    addObject(new Knife(), Greenfoot.getRandomNumber(600), 10);  
}  
  
if(Greenfoot.getRandomNumber(700)<1){  
    addObject(new Apple(), Greenfoot.getRandomNumber(600), 10);  
}  
  
//Total score=40 masuk world win  
if(G3.score.getValue()==40)  
{  
    Greenfoot.setWorld(new Win());  
}  
//Total life=0 masuk world GameOver  
if(G3.life.getValue()==0)  
{  
    Greenfoot.setWorld(new GameOver());  
}
```

Kode diatas digunakan untuk membuat actor apple dan knife bergerak turun secara random. Dalam world G3 atau level hard akan masuk ke world Win apabila score mencapai 40 dan akan berpindah ke world GameOver apabila life bernilai 0.

5. Kode pada world Win



Win - Project UAS

Class Edit Tools Options

G2 X G3 X Win X

Compile Undo Cut Copy Paste Find... Close Source Code

```
/**  
 * Write a description of class Win here.  
 *  
 * @author (your name)  
 * @version (a version number or a date)  
 */  
public class Win extends World  
{  
    public Win()  
    {  
        // Create a new world with 600x400 cells with a cell size of 1x1 pixels.  
        super(400, 600, 1);  
        prepare();  
    }  
    private void prepare()  
    {  
        Close close = new Close();  
        addObject(close,360,40);  
        showText("YOUR SCORE :" +G1.score.getValue(), getWidth()/2, getHeight()/6*5);  
        showText("YOUR SCORE :" +G2.score.getValue(), getWidth()/2, getHeight()/6*5);  
        showText("YOUR SCORE :" +G3.score.getValue(), getWidth()/2, getHeight()/6*5);  
    }  
}
```

Pada world Win akan muncul score yang didapat dari counter score saat bermain game My Apple.

6. Kode pada world GameOver

The screenshot shows a Java IDE window titled "GameOver - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
/*
 * Write a description of class GameOver here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class GameOver extends World
{
    public GameOver()
    {
        // World gameOver memiliki ukuran 400x600 pixel.
        super(400, 600, 1);
        prepare();
    }
    private void prepare()
    {
        Close close = new Close();
        addObject(close,360,40);
        showText("YOUR SCORE :" +G1.score.getValue(), getWidth()/2, getHeight()/5*3);
        showText("YOUR SCORE :" +G2.score.getValue(), getWidth()/2, getHeight()/5*3);
        showText("YOUR SCORE :" +G3.score.getValue(), getWidth()/2, getHeight()/5*3);
    }
}
```

Pada world GameOver akan muncul score yang didapat dari counter score saat bermain game My Apple.

7. Kode pada world How

The screenshot shows a Java IDE window titled "How - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
/**
 * Constructor for objects of class How.
 */
public How()
{
    //Create a new world with 400x600 cells with a cell size of 1x1 pixels.
    super(400, 600, 1);
    prepare();
}

/**
 * Prepare the world for the start of the program.
 * That is: create the initial objects and add them to the world.
 */
private void prepare()
{
    //Letak aktor
    Close close = new Close();
    addObject(close,360,40);
}
```

Pada world How terdapat tutorial cara memainkan game My Apple.

8. Kode pada world Level

The image shows two screenshots of the Greenfoot IDE interface. Both screenshots feature a top menu bar with 'Class', 'Edit', 'Tools', and 'Options'. Below the menu is a tab bar with three tabs: 'MyWorld' (selected), 'How', and 'Level'. A toolbar below the tabs includes buttons for 'Compile', 'Undo', 'Cut', 'Copy', 'Paste', 'Find...', and 'Close'. On the right side of the interface is a 'Source Code' dropdown menu.

Screenshot 1 (Top):

```

import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class Level here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Level extends World
{
    /**
     * Constructor for objects of class Level.
     *
     */
    public Level()
    {
        // Create a new world with 400x600 cells with a cell size of 1x1 pixels.
        super(400, 600, 1);
        prepare();
    }
    /**
     * Prepare the world for the start of the program.
     * That is: create the initial objects and add them to the world.
    */
}

```

Screenshot 2 (Bottom):

```

public Level()
{
    // Create a new world with 400x600 cells with a cell size of 1x1 pixels.
    super(400, 600, 1);
    prepare();
}
/**
 * Prepare the world for the start of the program.
 * That is: create the initial objects and add them to the world.
 */
private void prepare()
{
    // Berfungsi untuk mengatur letak aktor
    L1 l1 = new L1();
    addObject(l1,109,300);
    L2 l2 = new L2();
    addObject(l2,290,400);
    L3 l3 = new L3();
    addObject(l3,160,530);
    Close close = new Close();
    addObject(close,360,40);
}

```

Pada world Level terdapat kode untuk mengatur letak actor dan close.

9. Kode pada Cart

The screenshot shows the Greenfoot IDE interface with the title bar "Cart - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". A toolbar below the menu has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". On the right, a "Source Code" dropdown is open. The code editor contains Java code for the "Cart" class:

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class Cart here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Cart extends Actor
{
    /**
     * Act - do whatever the Cart wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Mengarahkan aktor bergerak kekiri atau kanan
        if (Greenfoot.isKeyDown("left"))
            setLocation(getX()-3, getY());
        else if (Greenfoot.isKeyDown("right"))
            setLocation(getX()+3, getY());
    }
}
```

Kode tersebut untuk menggerakkan gambar Cart kekanan dan kekiri dengan menggunakan keyboard panah kanan dan kiri.

10. Kode pada Knife

The screenshot shows the Greenfoot IDE interface with the title bar "Knife - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". A toolbar below the menu has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". On the right, a "Source Code" dropdown is open. The code editor contains Java code for the "Knife" class:

```
/*
 * Write a description of class Knife here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Knife extends Actor
{
    /**
     * Act - do whatever the Knife wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Menggerakan knife dari atas ke bawah.
        setLocation(getX(), getY()+4);
        //Mengurangi score ketika knife menyentuh cart
        if (isTouching(Cart.class))
        {
            getWorld().removeObject(this); //Knife nanti hilang
            G1.life.add(-1); //Life dikurangi 1
            G2.life.add(-1);
            G3.life.add(-1);
        }
        else if (isAtEdge())
            getWorld().removeObject(this); //Knife akan hilang jika sampai pada garis bawah
    }
}
```

Kode diatas berfungsi menggerakkan Knife dari atas kebawah, kemudian counter life akan berkurang 1 apabila Knife bersentuhan dengan Cart. Knife otomatis menghilang bila mencapai garis bawah.

11. Kode pada Apple

The screenshot shows the Greenfoot IDE interface with the title bar "Apple - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
* @version (a version number or a date)
*/
public class Apple extends Actor
{
    /**
     * Act - do whatever the Apple wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Menggerakkan aktor dari atas kebawah
        setLocation(getX(), getY() + 4);
        //Menambah score ketika apple menyentuh cart
        if (isTouching(Cart.class))
        {
            getWorld().removeObject(this); //Apple nanti hilang
            G1.score.add(+1); //Menambah score 1
            G2.score.add(+1);
            G3.score.add(+1);
        }
        else if (isAtEdge())
        {
            getWorld().removeObject(this); //Apple auto hilang saat sampai garis bawah
        }
    }
}
```

Kode diatas berfungsi menggerakkan Apple dari atas kebawah, kemudian counter score akan bertambah 1 apabila Apple bersentuhan dengan Cart. Apple otomatis menghilang bila mencapai garis bawah.

12. Kode pada Close

The screenshot shows the Greenfoot IDE interface with the title bar "Close - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class Close here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Close extends Actor
{
    /**
     * Act - do whatever the Close wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Klik close maka akan pindah ke myWorld
        if(Greenfoot.mouseClicked(this)){
            Greenfoot.delay(5);
            Greenfoot.setWorld(new MyWorld());
        }
    }
}
```

Kode pada Close berfungsi memindahkan tampilan pada game ke world MyWorld.

13. Kode pada Play

The screenshot shows the Greenfoot IDE interface with the title bar "Play - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Close", "Play", "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class Play here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Play extends Actor
{
    /**
     * Act - do whatever the Play wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Saat mengklik play maka akan pindah ke world lain, yaitu world Character
        if(Greenfoot.mouseClicked(this)){
            Greenfoot.delay(5);
            Greenfoot.setWorld(new Level());
        }
    }
}
```

The code is highlighted in green and yellow. A tooltip "Saat mengklik play maka akan pindah ke world lain, yaitu world Character" appears over the condition in the if-block. The status bar at the bottom left says "Class compiled - no syntax errors".

Kode pada Play berfungsi memindahkan tampilan pada game ke world Level.

14. Kode pada Counter

The screenshot shows the Greenfoot IDE interface with the title bar "Counter - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Close", "Play", "Counter", "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * A Counter class that allows you to display a numerical value on screen.
 *
 * The Counter is an actor, so you will need to create it, and then add it to
 * the world in Greenfoot. If you keep a reference to the Counter then you
 * can adjust its value. Here's an example of a world class that
 * displays a counter with the number of act cycles that have occurred:
 *
 * <pre>
 * class CountingWorld
 * {
 *     private Counter actCounter;
 *
 *     public CountingWorld()
 *     {
 *         super(600, 400, 1);
 *         actCounter = new Counter("Act Cycles: ");
 *         addObject(actCounter, 100, 100);
 *     }
 *
 *     public void act()
 *     {
 *         actCounter.setValue(actCounter.getValue() + 1);
 *     }
 * }
 */
```

The code is highlighted in green and yellow. A tooltip "Saat mengklik play maka akan pindah ke world lain, yaitu world Character" appears over the condition in the if-block. The status bar at the bottom right says "17:36 29/06/2022".

Counter - Project UAS

Class Edit Tools Options

Close X Play X Counter X

Compile Undo Cut Copy Paste Find... Close

Source Code

```
*      public void act()
*      {
*          actCounter.setValue(actCounter.getValue() + 1);
*      }
* </pre>
*
* @author Neil Brown and Michael Klling
* @version 1.0
*/
public class Counter extends Actor
{
    private static final Color transparent = new Color(0,0,0,0);
    private GreenfootImage background;
    private int value;
    private int target;
    private String prefix;

    public Counter()
    {
        this(new String());
    }
```

Counter - Project UAS

Class Edit Tools Options

Close X Play X Counter X

Compile Undo Cut Copy Paste Find... Close

Source Code

```
/**
 * Create a new counter, initialised to 0.
 */
public Counter(String prefix)
{
    background = getImage(); //getImage dari class
    value = 0;
    target = 0;
    this.prefix = prefix;
    updateImage();
}

/**
 * Animate the display to count up (or down) to the current target value.
 */
public void act()
{
    if (value < target) {
        value++;
        updateImage();
    }
    else if (value > target) {
        value--;
    }
}
```

Counter - Project UAS

Class Edit Tools Options

Close X Play Counter

Compile Undo Cut Copy Paste Find... Close

Source Code

```
        }
        else if (value > target) {
            value--;
            updateImage();
        }
    }

    /**
     * Add a new score to the current counter value. This will animate
     * the counter over consecutive frames until it reaches the new value.
     */
    public void add(int score)
    {
        target += score;
    }

    /**
     * Return the current counter value.
     */
    public int getValue()
    {
        return target;
    }
```

saved

Counter - Project UAS

Class Edit Tools Options

Close X Play Counter

Compile Undo Cut Copy Paste Find... Close

Source Code

```
    /**
     * Set a new counter value. This will not animate the counter.
     */
    public void setValue(int newValue)
    {
        target = newValue;
        value = newValue;
        updateImage();
    }

    /**
     * Sets a text prefix that should be displayed before
     * the counter value (e.g. "Score: ").
     */
    public void setPrefix(String prefix)
    {
        this.prefix = prefix;
        updateImage();
    }

    /**
     * Update the image on screen to show the current value.
     */
}
```

17:38
29/06/2022

saved

The screenshot shows the Greenfoot IDE interface with the title bar "Counter - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Close", "Play", "Counter", "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
    this.prefix = prefix;
    updateImage();
}

/**
 * Update the image on screen to show the current value.
 */
private void updateImage()
{
    GreenfootImage image = new GreenfootImage(background);
    GreenfootImage text = new GreenfootImage(prefix + value, 22, Color.BLACK, transparent);

    if (text.getWidth() > image.getWidth() - 20)
    {
        image.scale(text.getWidth() + 20, image.getHeight());
    }

    image.drawImage(text, (image.getWidth()-text.getWidth())/2,
                    (image.getHeight()-text.getHeight())/2);
    setImage(image);
}
```

Mengatur counter untuk nilai score dan nilai life.

15. Kode pada L1, L2, L3

The screenshot shows the Greenfoot IDE interface with the title bar "L1 - Project UAS". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Close", "Play", "Counter", "L1", "L2", "L3", "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". A "Source Code" dropdown is also present. The code editor contains the following Java code:

```
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class L1 here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class L1 extends Actor
{
    /**
     * Act - do whatever the L1 wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Klik L1 maka pinah ke world G1
        if(Greenfoot.mouseClicked(this)){
            Greenfoot.delay(5);
            Greenfoot.setWorld(new G1());
        }
    }
}
```

L2 - Project UAS

```

import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class L2 here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class L2 extends Actor
{
    /**
     * Act - do whatever the L2 wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Klik L2 maka pinah ke world G2
        if(Greenfoot.mouseClicked(this)){
            Greenfoot.delay(5);
            Greenfoot.setWorld(new G2());
        }
    }
}

```

L3 - Project UAS

```

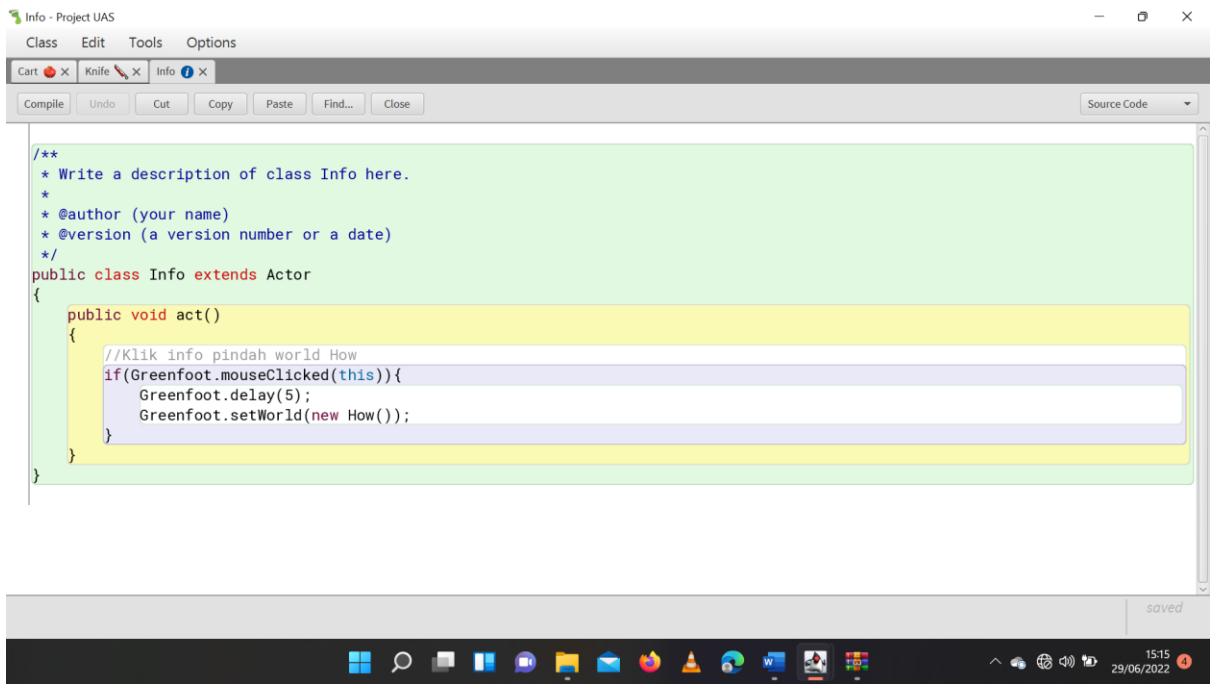
import greenfoot.*; // (World, Actor, GreenfootImage, Greenfoot and MouseInfo)

/**
 * Write a description of class L3 here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class L3 extends Actor
{
    /**
     * Act - do whatever the L3 wants to do. This method is called whenever
     * the 'Act' or 'Run' button gets pressed in the environment.
     */
    public void act()
    {
        //Klik L3 maka pinah ke world G3
        if(Greenfoot.mouseClicked(this)){
            Greenfoot.delay(5);
            Greenfoot.setWorld(new G3());
        }
    }
}

```

Kode pada L1, L2, L3 berfungsi untuk berpindah ke world G1, G2, G3.

16. Kode pada Info



```
Info - Project UAS
Class Edit Tools Options
Cart X Knife X Info F X
Compile Undo Cut Copy Paste Find... Close
Source Code



```
/*
 * Write a description of class Info here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Info extends Actor
{
 public void act()
 {
 //Klik info pindah world How
 if(Greenfoot.mouseClicked(this)){
 Greenfoot.delay(5);
 Greenfoot.setWorld(new How());
 }
 }
}
```


```

Kode diatas berfungsi untuk pindah dari world MyWorld ke world How Ketika gambar info diklik.