Assignment 1 Chapter 1

1. Explain the life cycle of applet with suitable diagram.

   An applet is a Java program that runs in a web browser or in appletviewer. It consist of no main function. Applet works on the client side so, less processing time to run the application. Life cycle of applet show how an object created, started, stopped and destroyed during the entire execution of the application. The following figure show the life cycle of the applet.

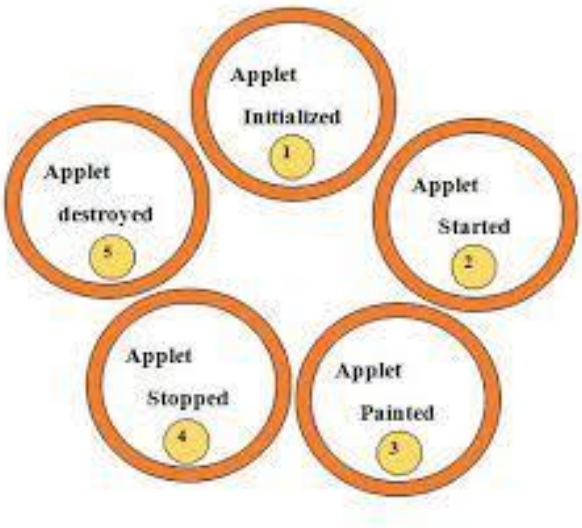


Fig. Life cycle of an applet.

It consist of five method init(), start(), stop(), paint() and destroy().

a. Init()

   This method initialized the applet. It is invoking only once at the time of initialization.

b. Start()

   Start() method is invoked only after init() method is invoked. Start() method is used to start an applet. It is invoking every time when browser loading or refreshing i.e. if a user leave web page and come back, the applet resumes execution at start().

c. Stop ()

   When browser stopped or minimized or abrupt failure of the application stop() method is called. We can start the applet again as per our needs and wants by using start () method.

d. Destroy()

   Once the applet work is complete we destroy the applet using destroy() method. We cannot start the applet once it is destroyed. Before destroying the applet stop() method is called. It free up resources used by applet.

e. Paint()

   This method is invoked immediately after the start() method, and also time the applet needs to repaint itself in the browser. It is used for painting any shapes. It consists of parameter as class Graphic, which give us features to paint in an applet.

2. Illustrate the applet skeleton.

   Applet skeleton is the basic mechanism by which the browser or applet viewer interfaces to the applet and control its execution. It consists of the method defined by applet they are init(), start(), paint(), stop() and destroy. Applet only override those method which they use. It depend on the applet whether there need to be defined all these method or not.

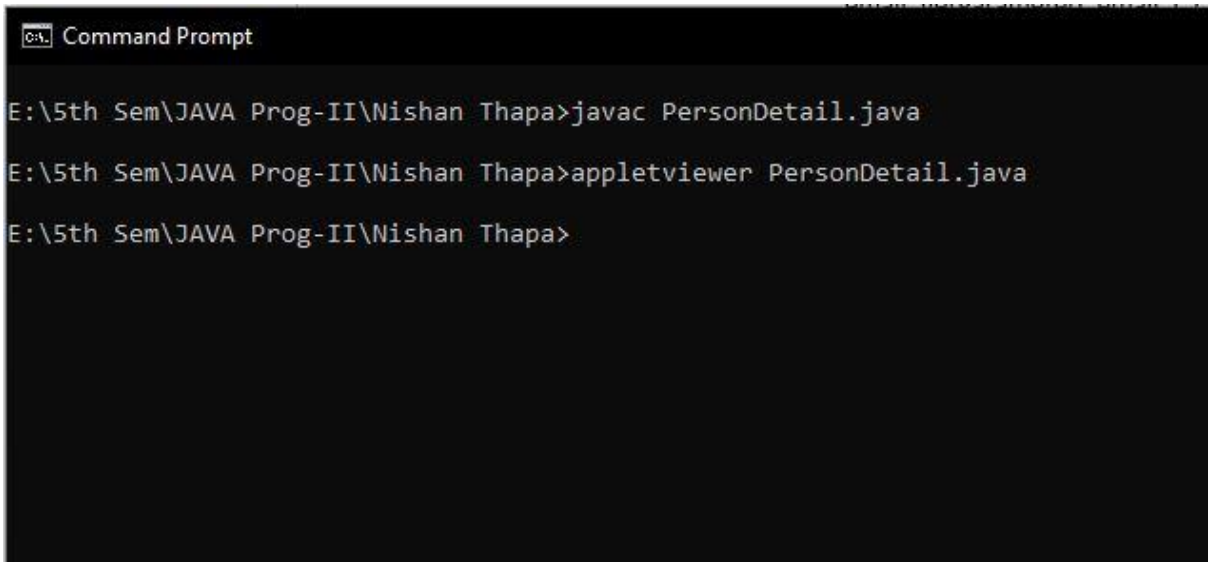
```
import java.awt.*;
import java.applet.*;
public class AppletTest extends Applet {
        public void init() {
        //initialization
        } public void start () {
         //start or resume execution
        }
        public void stop() {
         //suspend execution
        }
        public void destroy() {
         //perform shutdown activity
        }
        public void paint (Graphics g) {
         //display the content of window
        }
}
```

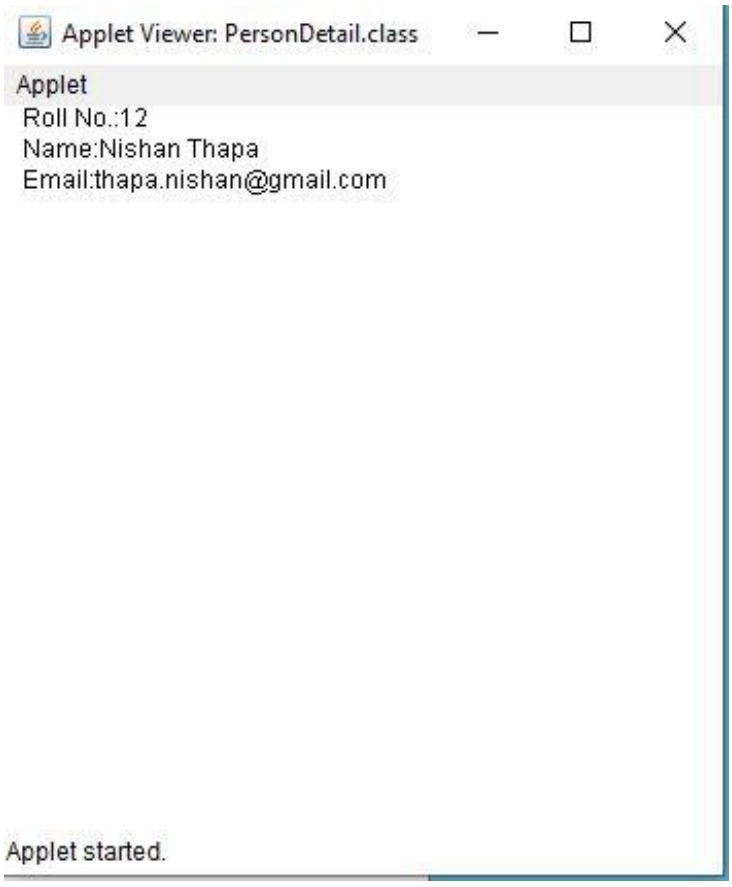
3. Write an applet program that displays your roll no, name and email address in three different lines.

Code:

```
import java.awt.*;
import java.applet.*;
/*
<applet code ="PersonDetail.class" width="350" height="350">
<param name=roll_no value="12">
<param name=username value="Nishan Thapa">
<param name=email value="thapa.nishan@gmail.com">
</applet>
*/


public class PersonDetail extends Applet{
        String username;
        int roll_no;
        String email;
                public void start(){
                        roll_no=Integer.parseInt(getParameter("roll_no")); /*assign roll no to the variable roll_no* and used Interger.parsenInt() method to get integer value. */
                        username=getParameter("username"); /*assign username to the variable  username. */
                        email=getParameter("email"); /*assign email to the variable email. */
                }
                public void paint(Graphics g){
                        g.drawString("Roll No.:"+roll_no,10,10);
                        g.drawString("Name:"+username,10,25);
                        g.drawString("Email:"+email,10,40);
                }
}
```


Command Prompt
E:\5th Sem\JAVA Prog-II\Nishan Thapa>javac PersonDetail.java
E:\5th Sem\JAVA Prog-II\Nishan Thapa>appletviewer PersonDetail.java
E:\5th Sem\JAVA Prog-II\Nishan Thapa>


Applet Viewer: PersonDetail.class
Applet
Roll No.:12
Name:Nishan Thapa
Email:thapa.nishan@gmail.com
Applet started.

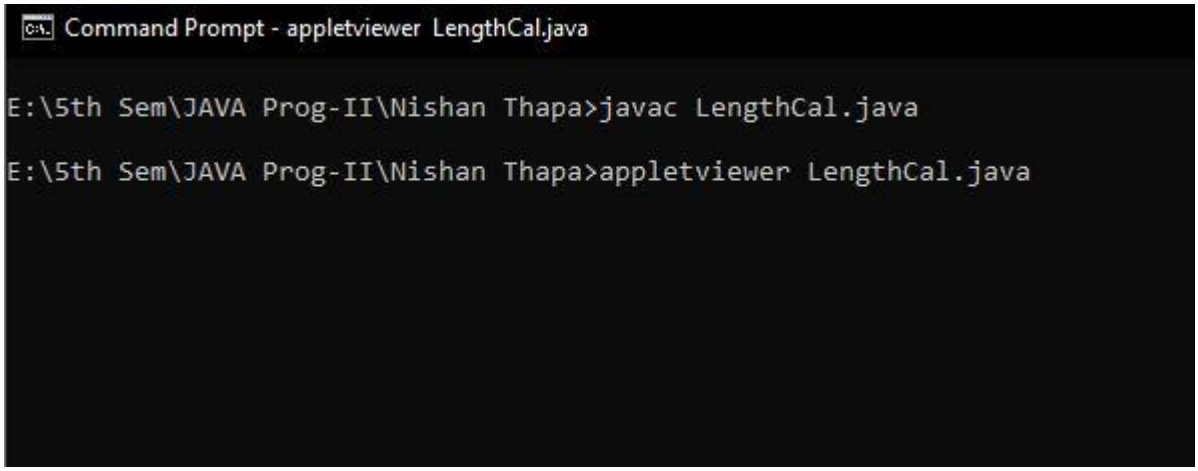
4. Write an applet program that takes a string as a parameter and checks whether the length of the string is less than 6 characters or not.

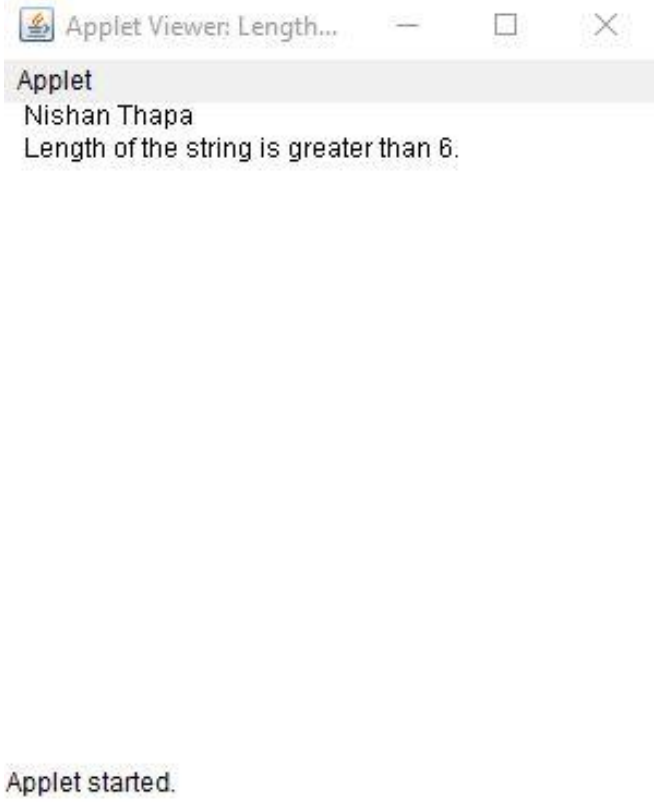
Code:

```
import java.applet.*;
import java.awt.*;
/*
<applet code="LengthCal.class" width="300" height="300">
<param name=uname value="Nishan Thapa">
</applet>
*/
public class LengthCal extends Applet{
	String uname;

	public void start(){
		uname=getParameter("uname");/*assign uname form param to variable uname. */
	}
	public void paint(Graphics g){

		g.drawString(uname,10,10);//displaying variable passing argument.
		if(uname.length()>6){
			g.drawString("Length of the string is greater than 6.",10,25);
		}
		else{
			g.drawString("Length of the string is less than 6.",10,25);
		}
	}
}
```


Command Prompt - appletviewer LengthCal.java
E:\5th Sem\JAVA Prog-II\Nishan Thapa>javac LengthCal.java
E:\5th Sem\JAVA Prog-II\Nishan Thapa>appletviewer LengthCal.java


Applet Viewer: Length...
Applet
Nishan Thapa
Length of the string is greater than 6.
Applet started.

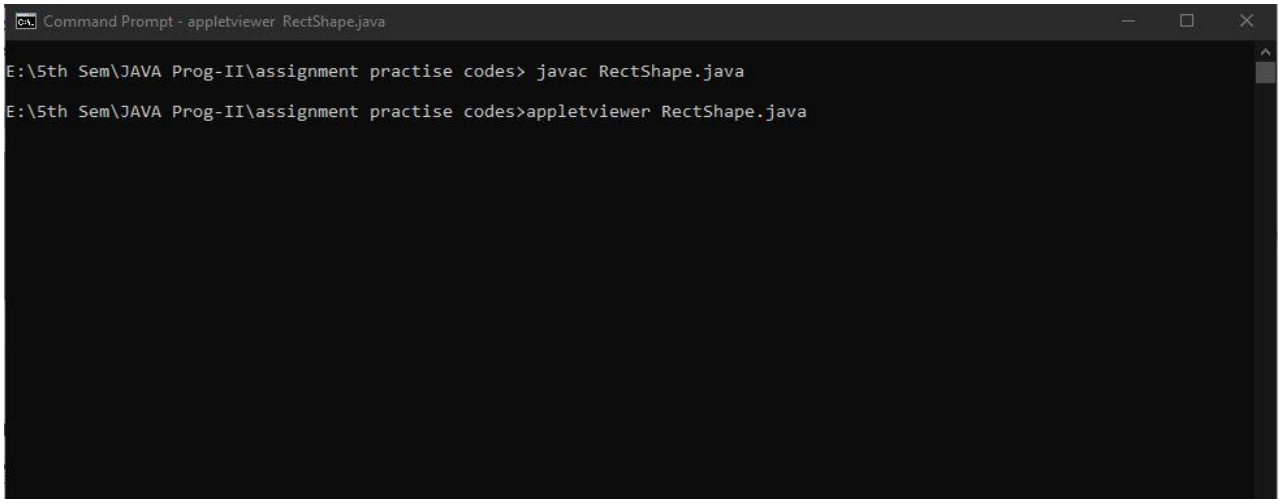
5. Write a program to create the following shapes.
   a) Rectangle with border color Red

Code:

```
import java.awt.*;
import java.applet.*;
/*
<applet code="RectShape.class" width="300" height="300">
</applet>
*/

public class RectShape extends Applet{
    public void paint(Graphics g){
    g.setColor(Color.RED); //setting color for the border line
    g.drawRect(10,10,60,50); //drawing rectangle

    }
}
```



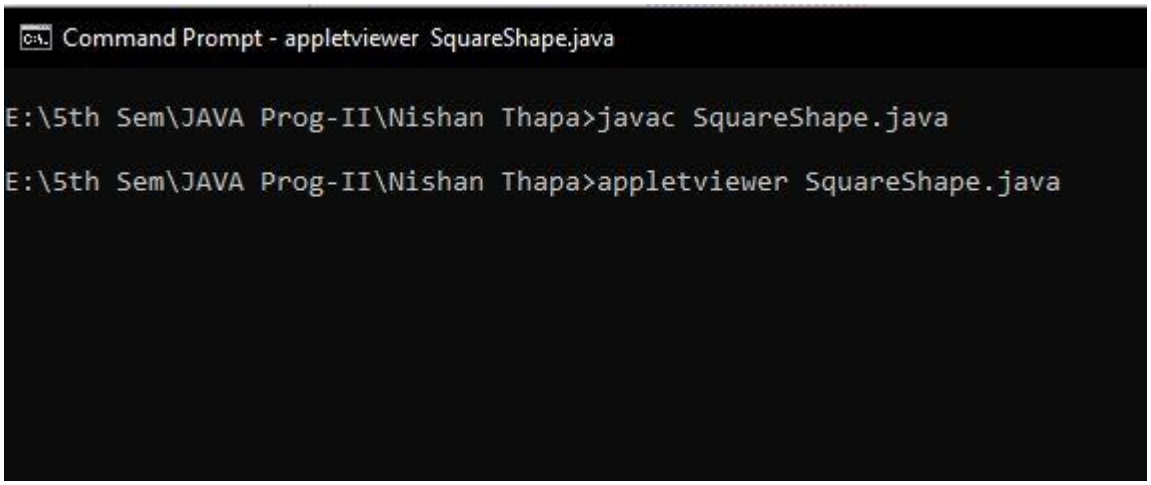
Applet started.

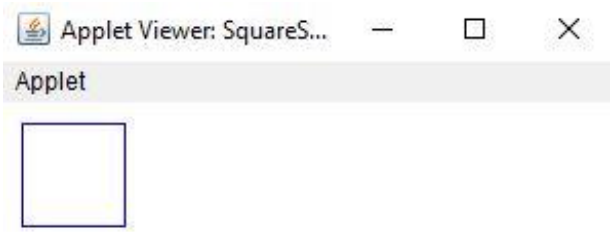
b) Square with border color Blue

Code:

```
import java.awt.*;
import java.applet.*;
/*
<applet code="SquareShape.class" width="300" height="300">
</applet>
*/

public class SquareShape extends Applet{
    public void paint(Graphics g){
    g.setColor(Color.BLUE); //setting blue color for the border line.
    g.drawRect(10,10,50,50);
    }
}
```





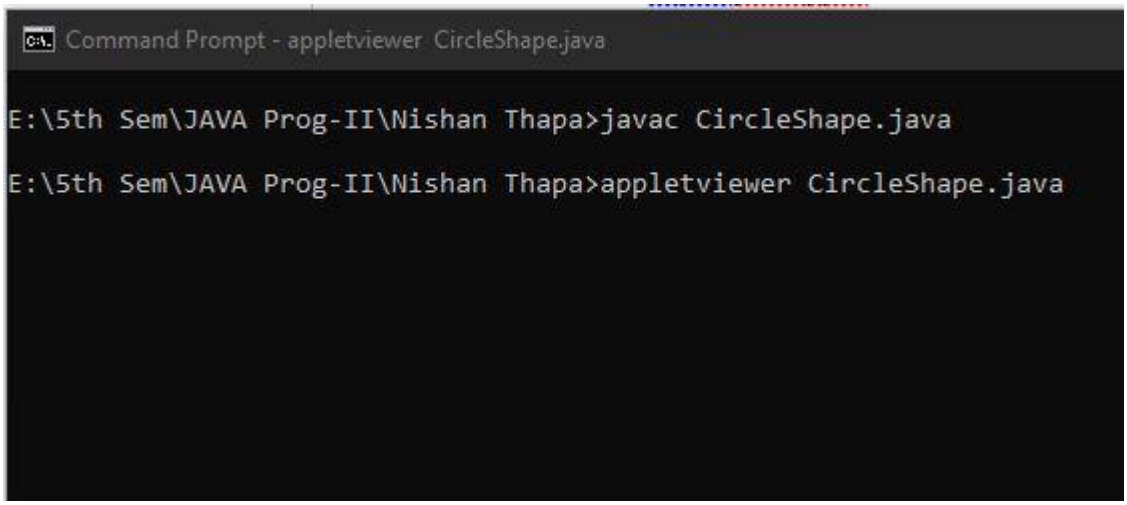
Applet started.

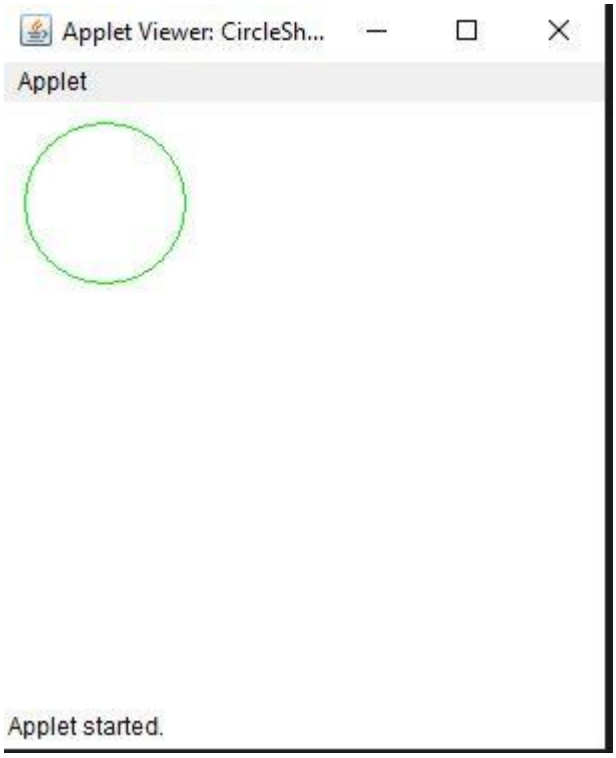
c) Circle with border color Green

Code:

```
import java.awt.*;
import java.applet.*;
/*
<applet code="CircleShape.class" width="300" height="300">
</applet>
*/

public class CircleShape extends Applet{
    public void paint(Graphics g){
    g.setColor(Color.GREEN);  //setting green color for the border line.
    g.drawOval(10,10,80,80);
    }
}
```




Applet Viewer: CircleSh...
Applet
Applet started.