Panel 1

Programming: to instruct a computer to solve a task

Programming Language: a foreign language used to instruct computer. Typed as "plain text," is readable by humans, vocabulary + grammar.

Compiling: check grammar + vocab and translate it to machine language

Executing: allocate resources + perform steps outlined in the program

The mechanics: 

The computer

IDE

Panel 2

Task: $1 + 2 + 3 + \ldots + 99 + 100 = \frac{100 \cdot 101}{2}$

$100 + 99 + 98 + \ldots + 2 + 1 = \frac{101}{2}$

$101 + 101 + 101 + \ldots + 101 + 101 = 100 \cdot 101$
Panel 3

Download & install JDK and BlueJ. Then start BlueJ.

1. Click on "Project" to create a new project. Use a name without spaces as project name.

2. Create a new class named "Test" and double-click to open the editor.

3. Erase everything except:

   ```java
   public class Test {
   }
   ```

   Then compile - no errors.

Panel 4

**Definition 1.01: Basic Java Programming Guidelines**

Every Java program must follow these guidelines:

- Java is case sensitive, i.e. the word `Program` is different from `program`.
- Curly brackets `{ }` are used to group statements together.
- An executable Java program must contain at least the following lines as a framework:

  ```java
  public class main {
      public static void main(String args[]) {
          // ... program code ...
      }
  }
  ```

- Every statement whose next statement is not a separate group must end in a semicolon.
- A Java program containing the above framework must be saved using the filename `Name.java`, where `Name` (including correct upper and lower cases) is the word that follows the keywords `public class` and the file extension is `java`.
Panel 5

4) Type the following and compile:

5) Execute by going back to Project window.

Right-click on the "Test" class and select the "main" method.

Panel 6
Panel 7

Create new class named `Rings` and type the following:

```java
import java.awt.*;
import java.awt.event.*;

public class Rings extends Frame
{
    public Rings()
    {
        setTitle("Rings");
        setSize(300, 200);
        setVisible(true);
    }

    public static void main(String args[])
    {
        System.out.println("Starting Rings program");
        Rings rings = new Rings();
    }
}
```

Panel 8

```java
...import java.awt.*;
import java.awt.event.*;

public class Rings extends Frame
{
    private class WindowCloser extends WindowAdapter
    {
        public void windowClosing(WindowEvent we)
        {
            System.exit(0);
        }
    }

    public Rings()
    {
        setTitle("Rings");
        setSize(300, 200);
        setVisible(true);
        addWindowListener(new WindowCloser());

        public void paint(Graphics g)
        {
            g.setColor(Color.red);
            g.drawOval(10, 30, 30, 30);
            g.setColor(Color.blue);
            g.drawOval(35, 30, 30, 30);
            g.setColor(Color.green);
            g.drawOval(60, 30, 30, 30);
            g.setColor(Color.yellow);
            g.drawOval(85, 30, 30, 30);
            g.setColor(Color.black);
            g.drawOval(110, 30, 30, 30);
            g.drawString("Rings", 40, 100);
        }

        public static void main(String args[])
        {
            System.out.println("Starting Rings program");
            Rings rings = new Rings();
        }
    }
}```
Panel 9

<table>
<thead>
<tr>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Either:</td>
</tr>
<tr>
<td>Olympic `08</td>
</tr>
<tr>
<td>Or:</td>
</tr>
<tr>
<td>Snowman</td>
</tr>
</tbody>
</table>