



RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

BCS-503: Object Oriented Techniques

Lecture-34

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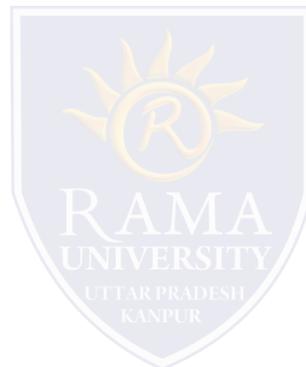
OBJECTIVES

In this PPT, you will learn to:

❖ **Graphics class**

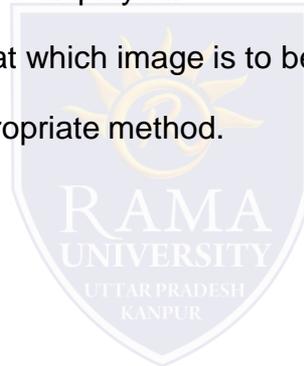
❖ **Font class**

❖ **Color class**



GRAPHICS, COLORS, AND FONTS

- Any GUI based program without images or colors looks dull and lifeless.
- To enhance the program's appearance, it is recommended that we use images wherever possible.
- General procedure to draw images would be:
 - Obtain the URL or path of the image to be displayed.
 - Decide upon the position (coordinates) at which image is to be displayed.
 - Supply all this information using an appropriate method.



GRAPHICS CLASS

- Drawing operations are accomplished using this class.
- Apart from text, it is possible to draw images, rectangles, lines, polygons and various other graphical representations.
- Graphics class is a part of the java.awt package.
- It has to be imported into the program.



EXAMPLE

```
/*
<applet code=Painting width=400
height=400>
</applet>
*/
import java.awt.*;
import java.applet.*;
public class MyHourGlass extends
Applet {
public void paint(Graphics g)
{
int numx[] = {30, 200, 30, 200,
30};
int numy[] = {30, 30, 200, 200,
30};
int num = 5;
g.drawPolygon(numx, numy, num);
}
}
```

Output



- **java.awt.Font class is used to set or retrieve fonts.**

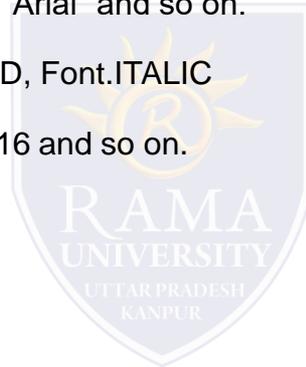
- One of the constructors of the Font class is:

- **public Font(String name, int style, int pointsize)**

- name can be “Times New Roman”, “Arial” and so on.

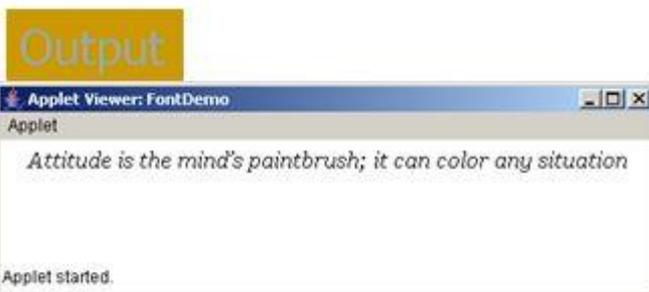
- style can be Font.PLAIN, Font.BOLD, Font.ITALIC

- pointsize for fonts can be 11,12,14,16 and so on.



EXAMPLE

```
/*
/*<applet code = FontDemo width = 400 height = 400>
</applet>*/
import java.applet.*;
import java.awt.*;
public class FontDemo extends Applet
{
    public void paint(Graphics g)
    {
        String quote = "Attitude is the mind's paintbrush; it can color any situation ";
        Font objFont = new Font("Georgia",Font.ITALIC,16);
        g.setFont(objFont);
        g.drawString(quote,20,20);
    }
}
```



java.awt.Color class is used to add color to applications and Applets.

▪ Objects of Color class can be constructed as shown :

▪ `Color a = new Color(255,255,0);`

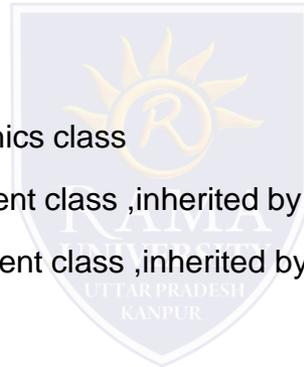
▪ `Color b = new Color(0.907F,2F,0F);`

▪ To change or set colors for a component :

▪ **abstract void setColor(Color)** of Graphics class

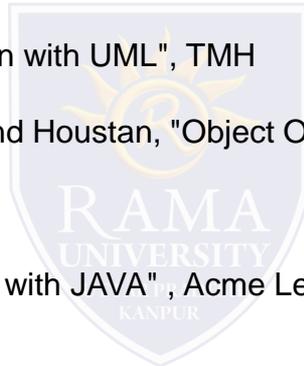
▪ **void setForeground(Color)** of Component class ,inherited by various components.

▪ **void setBackground(Color)** of Component class ,inherited by various components.



REFERENCES

1. James Rumbaugh et al, "Object Oriented Modeling and Design", PHI
2. Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language User Guide", Pearson Education
3. Naughton, Schildt, "The Complete Reference JAVA2", TMH
4. Mark Priestley "Practical Object-Oriented Design with UML", TMH
5. Booch, Maksimchuk, Engle, Young, Conallen and Houston, "Object Oriented Analysis and Design with Applications", Pearson Education
6. Pandey, Tiwari, " Object Oriented Programming with JAVA" , Acme Learning
7. <https://www.javatpoint.com/java-tutorial>
8. <https://www.tutorialspoint.com/java/index.htm>
9. https://www.tutorialspoint.com/object_oriented_analysis_design/index.htm
10. <https://www.slideshare.net/niitstudentcare/>



MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q1. Give the abbreviation of AWT?

- a) Applet Windowing Toolkit
- b) Abstract Windowing Toolkit
- c) Absolute Windowing Toolkit
- d) None of the above



MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q2. Which class provides many methods for graphics programming?

- a) java.awt
- b) java.Graphics
- c) java.awt.Graphics
- d) None of the above

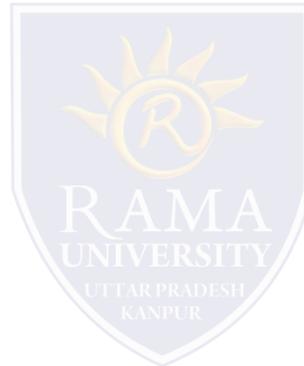


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q3. Which package provides many event classes and Listener interfaces for event handling?

- a) java.awt
- b) java.awt.Graphics
- c) java.awt.event
- d) None of the above

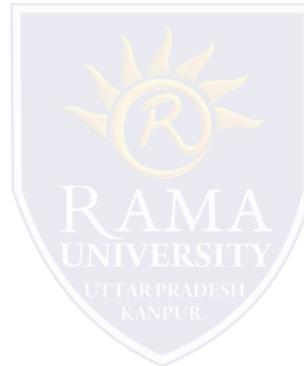


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q4. Which is the container that contain title bar and can have MenuBars. It can have other components like button, textfield etc.?

- a) Panel
- b) Frame
- c) Window
- d) Container



MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q5. Which is a component in AWT that can contain another components like buttons, textfields, labels etc.?

- a) Window
- b) Container
- c) Panel
- d) Frame



In this PPT, you learned that:

- The Graphics class is used to draw objects like text , lines ovals and arcs on the screen.
- The Font class is used to make text look attractive in the output of a Java program.
- The Color class is used to add colors to an application or Applet.

