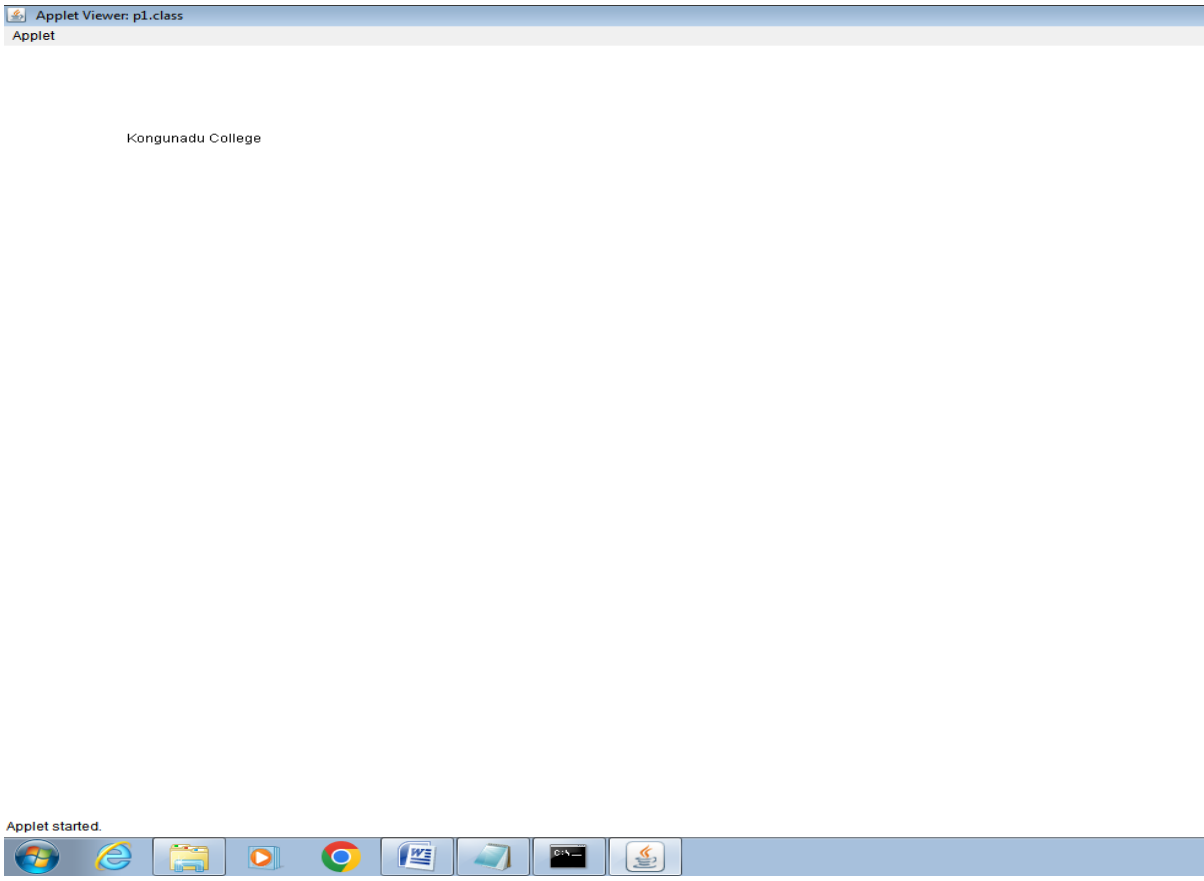
1.DISPLAYING A MESSAGE

```
import java.awt.*;
import java.applet.*;
 public class p1 extends Applet
 {
 public void paint(Graphics g)
  {
   g.drawString("Kongunadu College",100,100);
    }
   }
```

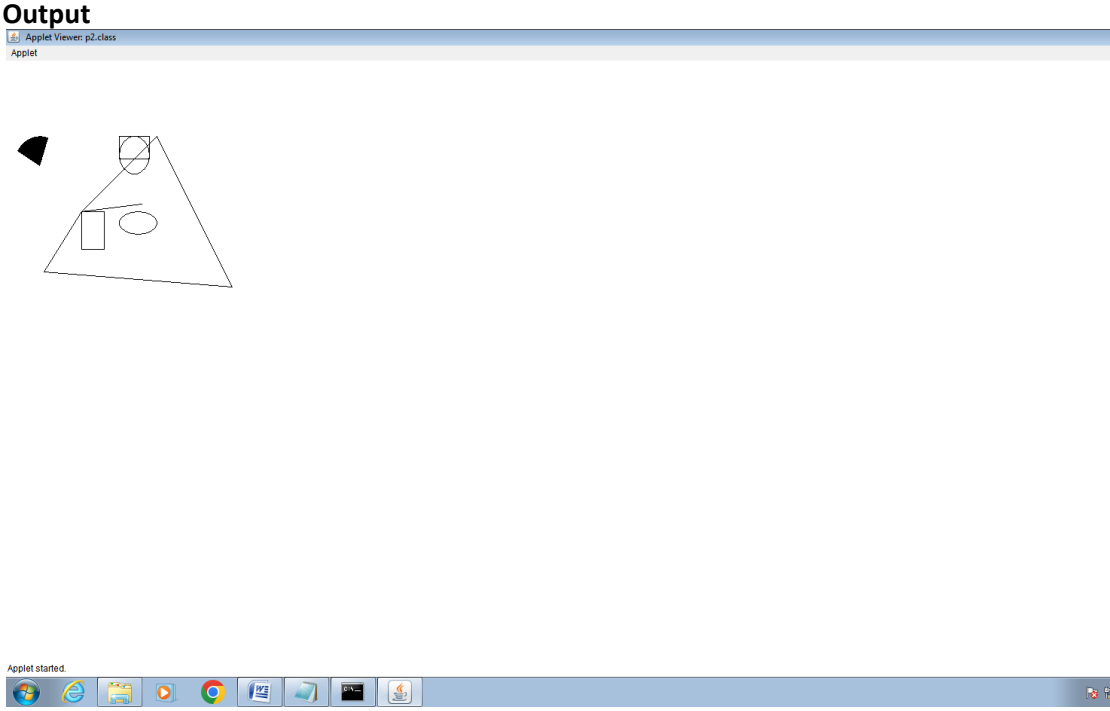
OUTPUT



2.DISPLAYING SEVERAL SHAPES IN APPLET WINDOW

```
import java.applet.*;
import java.awt.*;
public class p2 extends Applet
{
 public void paint(Graphics g)
  {
    int x[]={100,200,300,50};
    int y[]={200,100,300,280};
    g.drawLine(100,200,180,190);//line
    g.drawRect(100,200,30,50);//rectangle
    g.drawRect(150,100,40,30);//square
    g.drawOval(150,100,40,50);//oval
    g.drawOval(150,200,50,30);//circle
    g.fillArc(10,100,70,80,70,80);//arc
    g.drawPolygon(x,y,x.length);//polygon
}

}
```

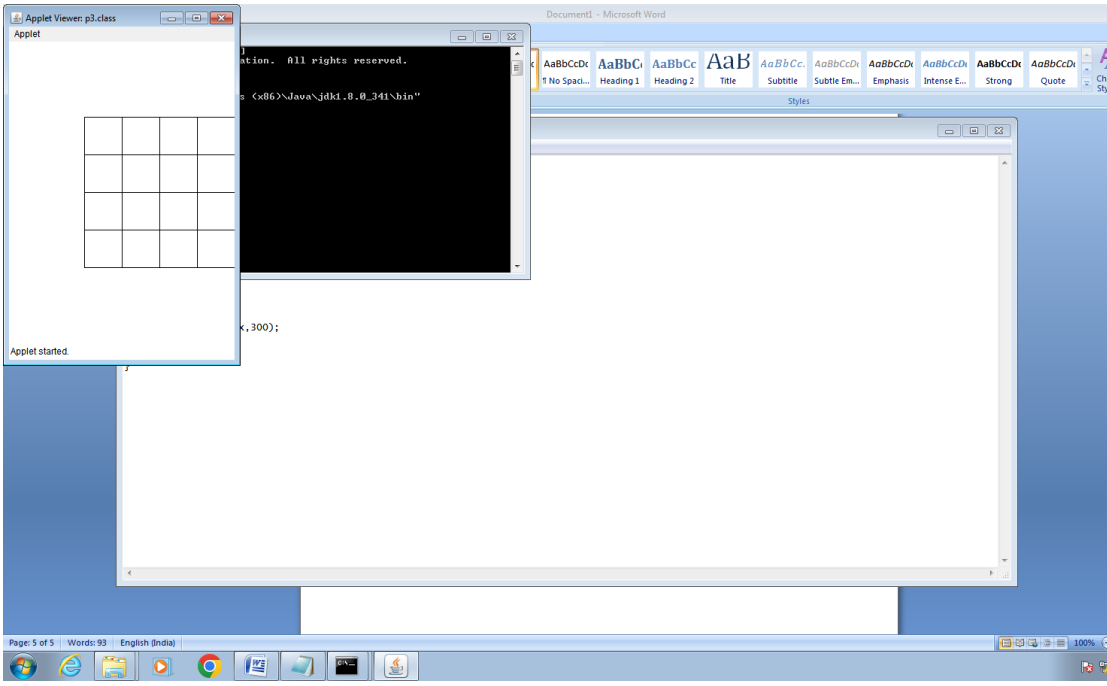
Output



3.GRID LINES

```
import java.awt.*;
import java.applet.*;

 public class p3 extends Applet
{
 int i=0,j=0,x=100,y=100;
 public void paint(Graphics g)
{
  //Horizontal lines
 for(i=1;i<=5;i++)
{
  g.drawLine(100,y,300,y);
  y=y+50;
}
//Vertical lines
for(j=1;j<=5;j++)
{
  g.drawLine(x,100,x,300);
  x=x+50;
}
}
}
```

Output

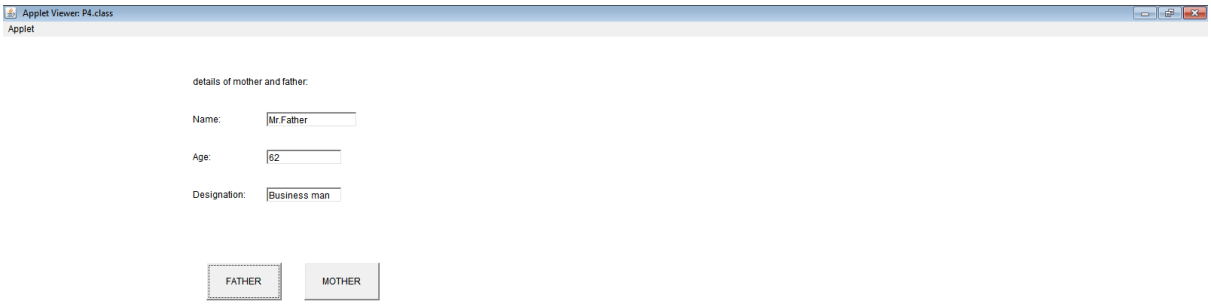

Applet Viewer: p3.class
Applet
Applet started.
ation. All rights reserved.
s (x86)\Java\jdk1.8.0_341\bin"
x,300);
Document1 - Microsoft Word
Page: 5 of 5
Words: 93
English (India)

4.PARENT DETAILS

```
 import java.awt.*;
import java.applet.*;
import java.awt.event.*;
public class P4 extends Applet implements ActionListener{
	Label lb_detail,lb_name,lb_age,lb_desg;
	TextField tf_name,tf_age,tf_desg;
	Button b_mom,b_dad;
	public void init(){
	setLayout(null);
	lb_detail=new Label("details of mother and father:");
	lb_detail.setBounds(250,50,250,20);
	add(lb_detail);
	lb_name=new Label("Name:");
	lb_name.setBounds(250,100,100,20);
	add(lb_name);
	lb_age=new Label("Age:");
	lb_age.setBounds(250,150,100,20);
	add(lb_age);
	lb_desg=new Label("Designation:");
	lb_desg.setBounds(250,200,100,20);
	add(lb_desg);
	tf_name=new TextField(30);
	tf_name.setBounds(350,100,120,20);
	add(tf_name);
	tf_age=new TextField(5);
	tf_age.setBounds(350,150,100,20);
	add(tf_age);
	tf_desg=new TextField(30);
	tf_desg.setBounds(350,200,100,20);
	add(tf_desg);
	b_dad=new Button("FATHER");
	b_dad.setBounds(270,300,100,50);
	b_dad.addActionListener(this);
	add(b_dad);
	b_mom=new Button("MOTHER");
	b_mom.setBounds(400,300,100,50);
	b_mom.addActionListener(this);
	add(b_mom);
}
public void actionPerformed(ActionEvent e) {
	String s= e.getActionCommand();
	if(s.equals("FATHER")) {
		tf_name.setText("Mr.Father");
		tf_age.setText("62");
		tf_desg.setText("Business man");
	}
	if(s.equals("MOTHER")) {
		tf_name.setText("Mrs.Mother");
		tf_age.setText("60");
		tf_desg.setText("HOuse wife");
```

```
        }
}
}
```

OUTPUT


Applet Viewer: P4.class
Applet
details of mother and father:
Name:
Mr.Father
Age:
62
Designation:
Business man
FATHER
MOTHER


Applet started.
12:20
25-08-2025
Applet Viewer: P4.class
Applet


details of mother and father:
Name:
Mrs.Mother
Age:
60
Designation:
HOuse wife
FATHER
MOTHER

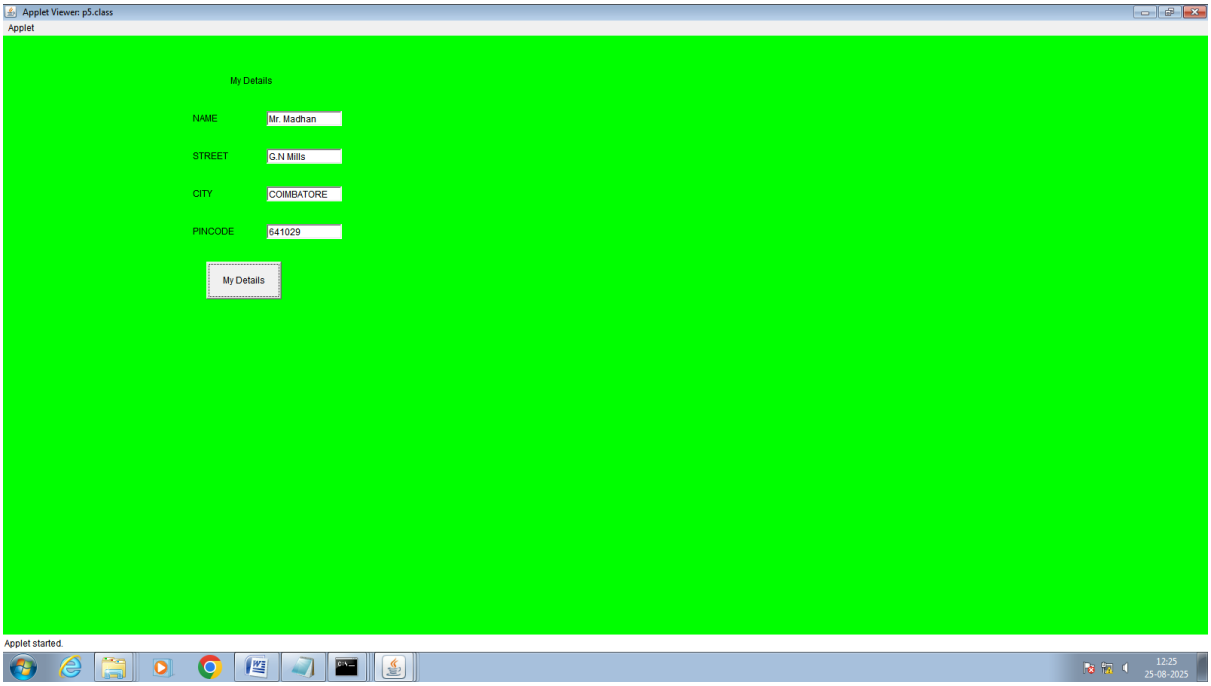

Applet started.
12:22
25-08-2025

5.MY DETAILS

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

// <applet code="p5.class" width=600 height=400></applet>

public class p5 extends Applet implements ActionListener {

   TextField tf_name, tf_street, tf_city, tf_pin;
   Button bu_mydet;
   Label lb_det, lb_name, lb_street, lb_city, lb_pin;

   public void init() {
      int wid = 100, ht = 20;

      // Set layout to null
      setLayout(null);
      setBackground(Color.green);

      // Initialize Labels
      lb_det = new Label("My Details");
      lb_det.setBounds(300, 50, 250, 20);
      add(lb_det);

      lb_name = new Label("NAME");
      lb_name.setBounds(250, 100, wid, ht);
      add(lb_name);

      lb_street = new Label("STREET");
      lb_street.setBounds(250, 150, wid, ht);
      add(lb_street);

      lb_city = new Label("CITY");
      lb_city.setBounds(250, 200, wid, ht);
      add(lb_city);

      lb_pin = new Label("PINCODE");
      lb_pin.setBounds(250, 250, wid, ht);
      add(lb_pin);

      // Initialize TextFields
      tf_name = new TextField(30);
      tf_name.setBounds(350, 100, wid, ht);
      add(tf_name);

      tf_street = new TextField(30);
      tf_street.setBounds(350, 150, wid, ht);
      add(tf_street);

      tf_city = new TextField(30);
```

```
        tf_city.setBounds(350, 200, wid, ht);
        add(tf_city);

        tf_pin = new TextField(6);
        tf_pin.setBounds(350, 250, wid, ht);
        add(tf_pin);

        // Initialize Button
        bu_mydet = new Button("My Details");
        bu_mydet.setBounds(270, 300, 100, 50);
        add(bu_mydet);
        bu_mydet.addActionListener(this);
    }

    public void actionPerformed(ActionEvent e) {
        tf_name.setText("Mr. Madhan");
        tf_street.setText("G.N Mills ");
        tf_city.setText("COIMBATORE");
        tf_pin.setText("641029");
    }
}
```

OUTPUT

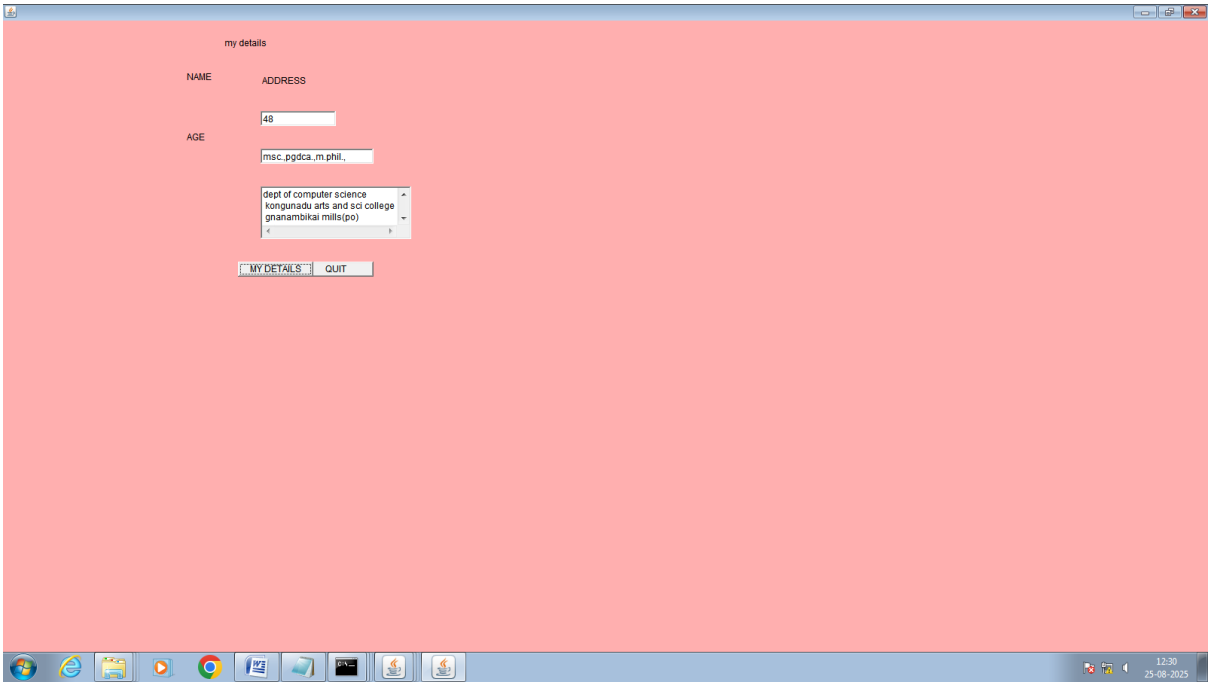


6.PERSONAL DETAILS

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

class p6 extends Frame implements ActionListener
{
String str;
TextField name,age,qua;
TextArea addrs;
Button mydet,quit;
Label det,na,ag,qu,ad;
p6()
{
setLayout(null);
setBackground(Color.pink);
det=new Label("my details");
det.setBounds(300,50,250,20);
add(det);
na=new Label("NAME");
na.setBounds(250,80,100,50);
add(na);
ag=new Label("AGE");
ag.setBounds(250,150,100,70);
add(ag);
qu=new Label("QUALIFICATION");
qu.setBounds(250,180,100,20);
add(qu);
ad=new Label("ADDRESS");
ad.setBounds(350,100,100,20);
add(ad);
name=new TextField(30);
name.setBounds(350,100,100,20);
add(name);
age=new TextField(5);
age.setBounds(350,150,100,20);
add(age);
qua=new TextField(30);
qua.setBounds(350,200,150,20);
add(qua);
addrs=new TextArea();
addrs.setBounds(350,250,200,70);
add(addrs);
mydet=new Button("MY DETAILS");
mydet.setBounds(320,350,100,20);
mydet.addActionListener(this);
add(mydet);
quit=new Button("QUIT");
quit.setBounds(400,350,100,20);
quit.addActionListener(this);
add(quit);
}
```

```
public void actionPerformed(ActionEvent e)
{
String s=e.getActionCommand();
if(s.equals("MY DETAILS"))
{

name.setText("mr.x");
age.setText("48");
qua.setText("msc.,pgdca.,m.phil.,");
str="dept of computer science\n kongunadu arts and sci college\n gnanambikai mills(po)\n
coimbatore";
addrs.setText(str);
}
if(s.equals("quit"))
{
System.exit(0);
}
}
public static void main(String args[])
{
p6 m1=new p6();
m1.setSize(700,700);
m1.setVisible(true);
}
}
```

OUTPUT

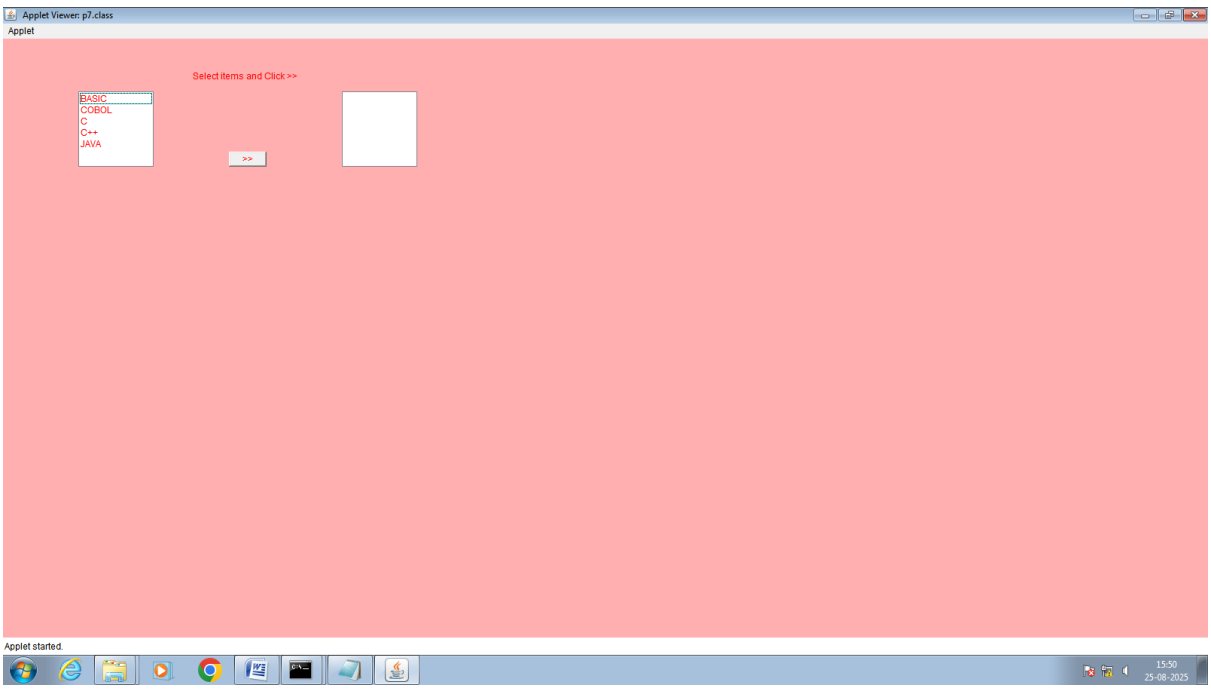


7.MULTIPLE SELECTION LIST BOX

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

/* <applet code = p7 width=800 height=700> </applet>*/ public class p7 extends Applet implements
ActionListener

{ Label lab1;

List lbox1, lbox2;

Button b;

int i,n[];

String s,item;

public void init()

{ setLayout(null); setBackground(Color.pink); setForeground(Color.red);

lab1 = new Label("Select items and Click >>");

lab1.setBounds(250,25,150,50); add(lab1);

// TRUE -- MULTIPLE ITEMS CAN BE SELECTED

lbox1 = new List(5,true);

lbox1.setBounds(100,70,100,100);

lbox1.add("BASIC");

lbox1.add("COBOL");

lbox1.add("C");

lbox1.add("C++");

lbox1.add("JAVA");

lbox1.addActionListener(this);

add(lbox1);

lbox2= new List(5);

lbox2.setBounds(450,70,100,100);
```

```
lbox2.addActionListener(this); add(lbox2); b = new Button(">>");

b.setBounds(300,150,50,20);

b.addActionListener(this);

add(b);

}

public void actionPerformed(ActionEvent e)

{ lbox2.removeAll(); n = lbox1.getSelectedIndexes(); for(i=0;i<n.length;i++) {

item =lbox1.getItem(n[i]);

lbox2.add(item);

}

}

}//class
```

OUTPUT

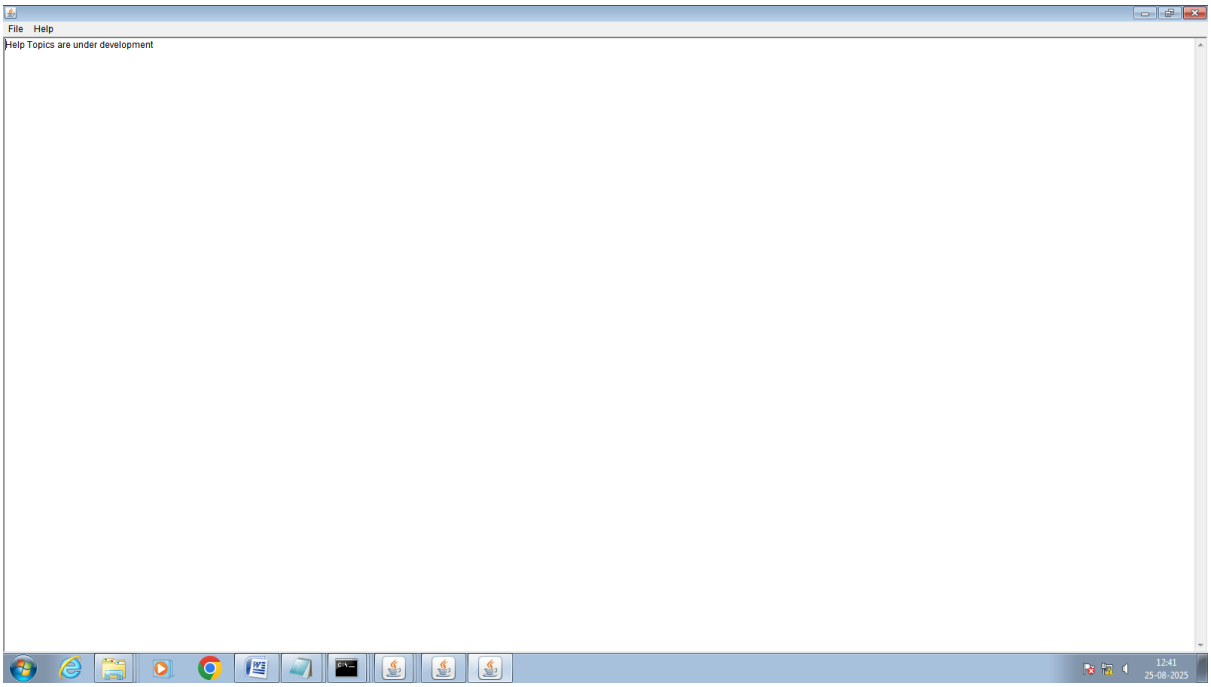


8.MENU BAR AND PULL DOWN EVENTS

```
/* create a menu bar and menus */

import java.awt.*;

import java.awt.event.*;

 public class p8 extends Frame implements ActionListener
 {

TextArea ta= new TextArea(60,30);
p8(){

MenuBar mb = new MenuBar();
 Menu fil = new Menu("File");

MenuItem newmi = new MenuItem("New");

fil.add(newmi);

newmi.addActionListener(this);

fil.addSeparator();

MenuItem exitmi = new MenuItem("Exit");

fil.add(exitmi);

exitmi.addActionListener(this);

mb.add(fil);

Menu help = new Menu("Help");

MenuItem helptop = new MenuItem("Help Topics");

help.add(helptop);
```

```
helptop.addActionListener(this);

mb.add(help);

setMenuBar(mb);

add(ta);

}
public void actionPerformed(ActionEvent e)

{

String s = e.getActionCommand();

if(s.equals("New"))

{
```

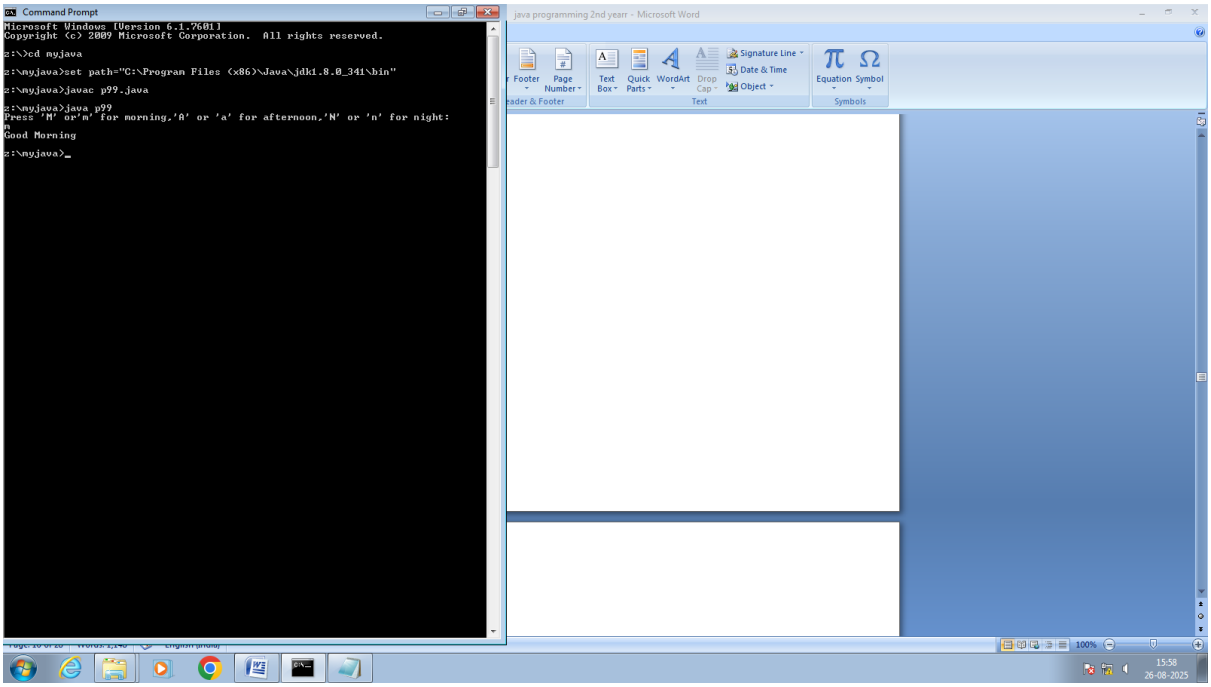
OUTPUT



9.HANDLING KEY EVENTS

```
import java.util.Scanner;
public class p9
{
public static void main(String[] args)
{
Scanner input=new Scanner(System.in);
System.out.println("Press 'M' or'm' for morning,'A' or 'a' for afternoon,'N' or 'n' for night:");
String userInput = input.next();
if(userInput.equalsIgnoreCase("M"))
{
System.out.println("Good Morning");
}
else if(userInput.equalsIgnoreCase("A"))
{
System.out.println("Good Afternoon");
}
else if(userInput.equalsIgnoreCase("N"))
{
System.out.println("Good night");
}
else {
System.out.println("Invalid input. Please try again.");
}
input.close();
}
}
```

OUTPUT

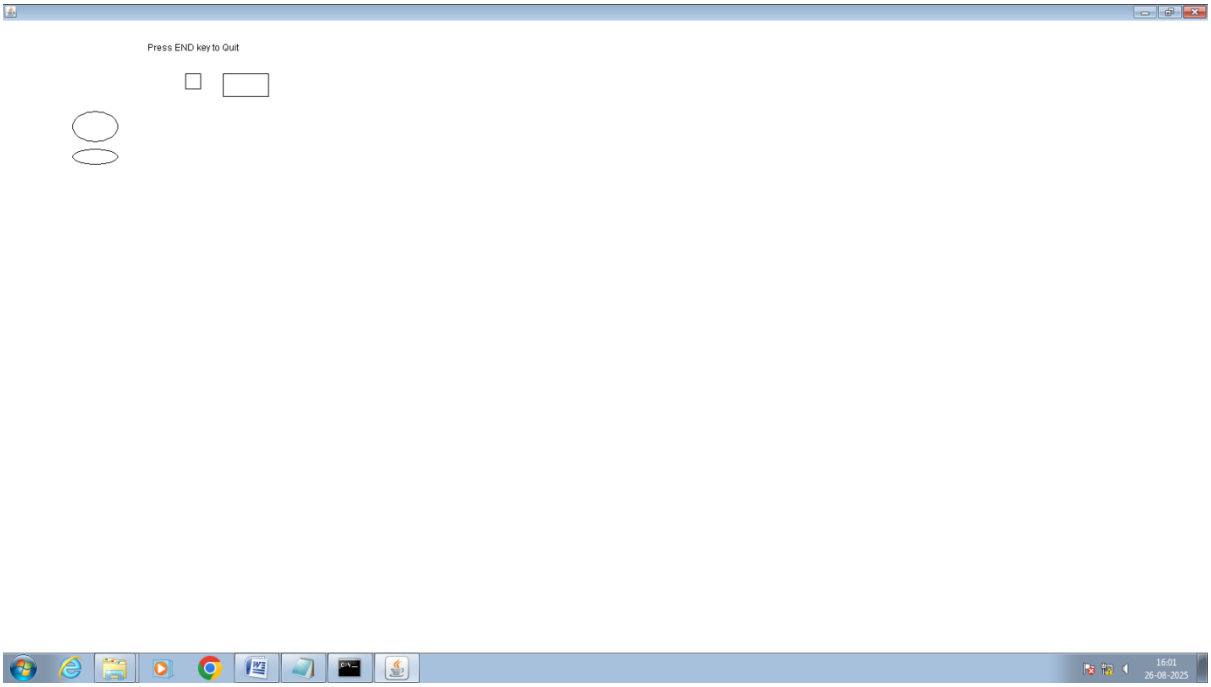

Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
z:\>cd myjava
z:\myjava>set path="C:\Program Files (x86)\Java\jdk1.8.0_341\bin"
z:\myjava>javac p99.java
z:\myjava>java p99
Press 'M' or'm' for morning,'A' or 'a' for afternoon,'N' or 'n' for night:
n
Good Morning
z:\myjava>
java programming 2nd yearr - Microsoft Word
Footer
Page Number
Text Box
Quick Parts
WordArt
Drop Cap
Signature Line
Date & Time
Object
Equation
Symbol
Text
Symbols
100%
15:58
26-08-2025

10.VIRTUAL KEY EVENT

```
import java.awt.*;
import java.awt.event.*;
class p10 extends Frame implements KeyListener
{
int key=0,xcir=100,xell=100,ysqr=100,yrec=100;
p10()
{
setLayout(null);
addKeyListener(this);
}
public void keyPressed(KeyEvent e)
{
key=e.getKeyCode();
switch(key)
{
case KeyEvent.VK_LEFT:
xcir=xcir-5;break;
case KeyEvent.VK_RIGHT:
xell=xell+5;break;
case KeyEvent.VK_UP:
ysqr=ysqr-5;break;
case KeyEvent.VK_DOWN:
yrec=yrec+5;break;
case KeyEvent.VK_END:
System.exit(0);
```

```
}
repaint();
}
public void keyReleased(KeyEvent e)
{}
public void keyTyped(KeyEvent e){}
public void paint(Graphics g)
{
g.drawString("Press END key to Quit",200,70);
g.drawOval(xcir,150,60,40);
g.drawOval(xell,200,60,20);
g.drawRect(250,ysqr,20,20);
g.drawRect(300,yrec,60,30);
}
public static void main(String args[])
{
p10 k=new p10();
k.setSize(600,600);
k.setVisible(true);
}
}
```

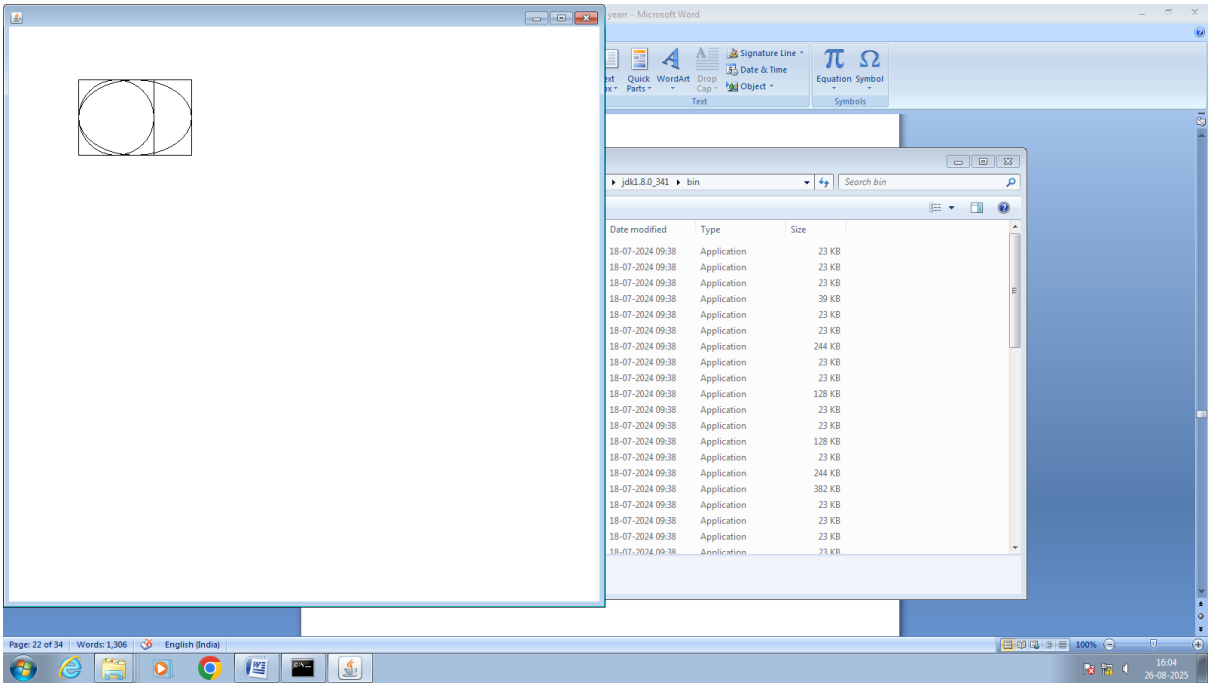
OUTPUT



11.MOUSE EVENT

```
import java.awt.*;
import java.awt.event.*;
class p11 extends Frame implements MouseListener
{
int x=100,y=100;
p11()
{
setLayout(null);
addMouseListener(this);
}
public void mouseClicked(MouseEvent me)
{
x=me.getX();
y=me.getY();
repaint();
}
public void mousePressed(MouseEvent me){}
public void mouseReleased(MouseEvent me){}
public void mouseEntered(MouseEvent me){}
public void mouseExited(MouseEvent me){System.exit(0);}
public void paint(Graphics g)
{
g.drawOval(x,y,100,100);
g.drawOval(x,y,150,100);
g.drawRect(x,y,100,100);
g.drawRect(x,y,150,100);
}
public static void main(String args[])
{
p11 p=new p11();
p.setSize(800,800);
p.setVisible(true);
}
}
```

OUTPUT


yearr - Microsoft Word
Signature Line
Date & Time
Object
Quick Parts
WordArt
Drop Cap
Equation
Symbol
Text
Symbols
jdk1.8.0_341 ▸ bin
Search bin
Date modified
Type
Size
18-07-2024 09:38 Application 23 KB
18-07-2024 09:38 Application 23 KB
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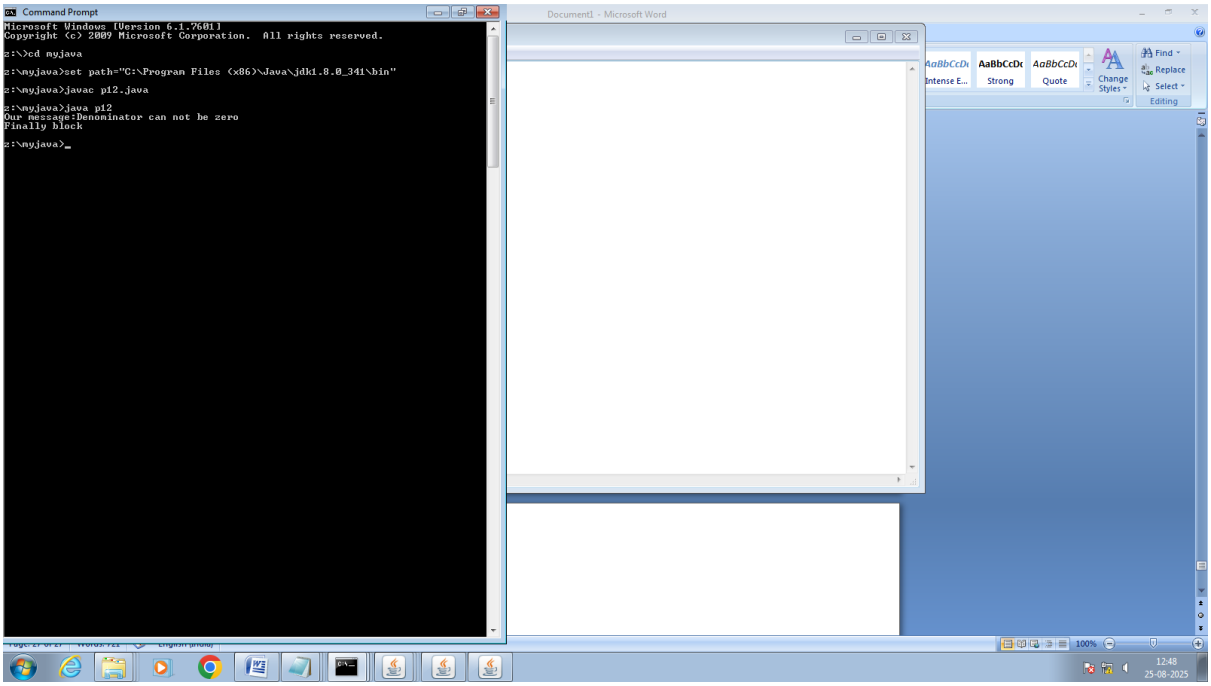
18-07-2024 09:38 Application 23 KB
18-07-2024 09:38 Application 23 KB
Page: 22 of 34
Words: 1,306
English (India)
100%
16:04
26-08-2025

12.DIVIDE BY ZERO EXCEPTION

```
/*handle the division by zero exception*/
class p12
{
public static void main(String arg[])
{
int a=5;
int b=0;
int c=7;
try
{
c=a/b;
System.out.println("Normal Exit within try"+c);
}
catch(ArithmeticException e)
{
System.out.println("Our message:Denominator can not be zero");
}
finally
{
System.out.println("Finally block");
}
}//main
}//class
```

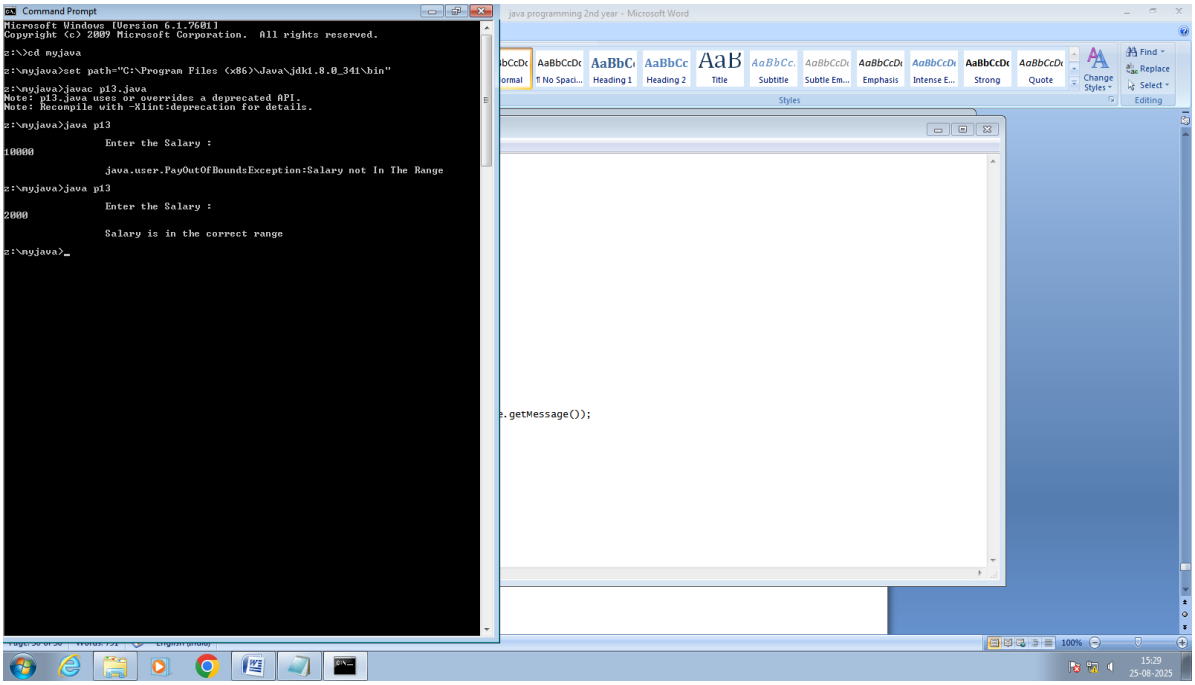
OUTPUT



13.USER DEFINED EXCEPTION

```
import java.lang.Exception;
import java.io.*;
class PayOutOfBoundsException extends Exception
{
PayOutOfBoundsException(String msg)
{
super(msg);
}
}
class p13
{
public static void main(String args[])
{
float s;
DataInputStream i=new DataInputStream(System.in);
try
{
System.out.println("\n\t\t Enter the Salary :");
s=Float.valueOf(i.readLine()).floatValue();
if (s<1000||s>5000)
throw new PayOutOfBoundsException("Salary not In The Range");
else
System.out.println("\n\t\t Salary is in the correct range");
}
catch(PayOutOfBoundsException e)
{
System.out.println("\n\t\t java.user.PayOutOfBoundsException:"+e.getMessage());
}
catch(IOException e){ }
}
}
```

OUTPUT

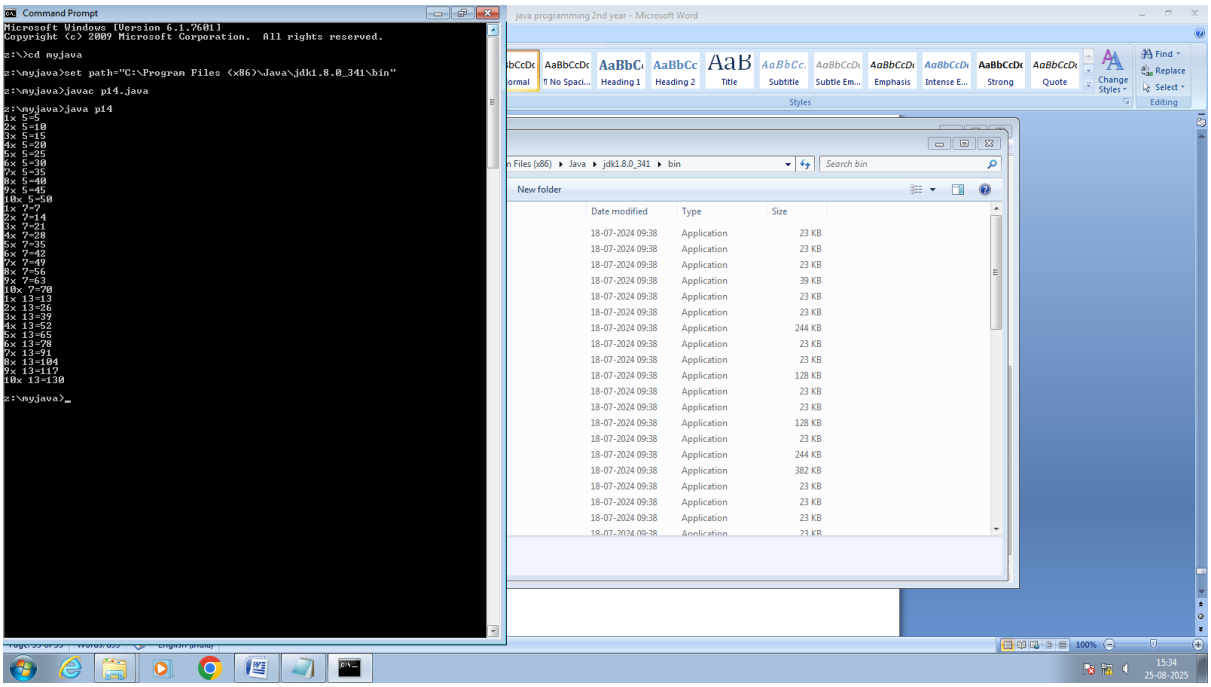

Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
z:\>cd myjava
z:\myjava>set path="C:\Program Files (x86)\Java\jdk1.8.0_341\bin"
z:\myjava>javac p13.java
Note: p13.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
z:\myjava>java p13
Enter the Salary :
10000
java.user.PayOutOfBoundsException:Salary not In The Range
z:\myjava>java p13
Enter the Salary :
2000
Salary is in the correct range
z:\myjava>
java programming 2nd year - Microsoft Word
Heading 1
Heading 2
Title
Subtitle
Emphasis
Strong
Quote
Change Styles
Find
Replace
Select
Styles
Editing
e.getMessage());
100%
15:29
25-08-2025

14.MULTIPLICATION TABEL

```
/*explain the multithreading with the use of multiplication tables.Three threads must be defined.
Each one must create one multiplication table;they are 5 table,7 table and 13 table.
*/
class A extends Thread
{
public void run()

{for(int i=1;i<=10;i++)

{
System.out.println(i+"x 5="+i*5);

}

}

}
class B extends Thread

{

public void run()

{

try{sleep(1000);}catch(Exception e){};

for(int j=1;j<=10;j++)

{

System.out.println(j+"x 7="+j*7);

}

}

}

class C extends Thread

{

public void run()

{
```

```
try{sleep(2000);}catch(Exception e){};
for(int k=1;k<=10;k++)
{
System.out.println(k+"x 13="+k*13);
}
}
}
class p14
{
public static void main(String arg[])
{ A threda=new A();
B thredb=new B();
C thredc=new C();
threda.start();
thredb.start();
thredc.start();
}
}
```

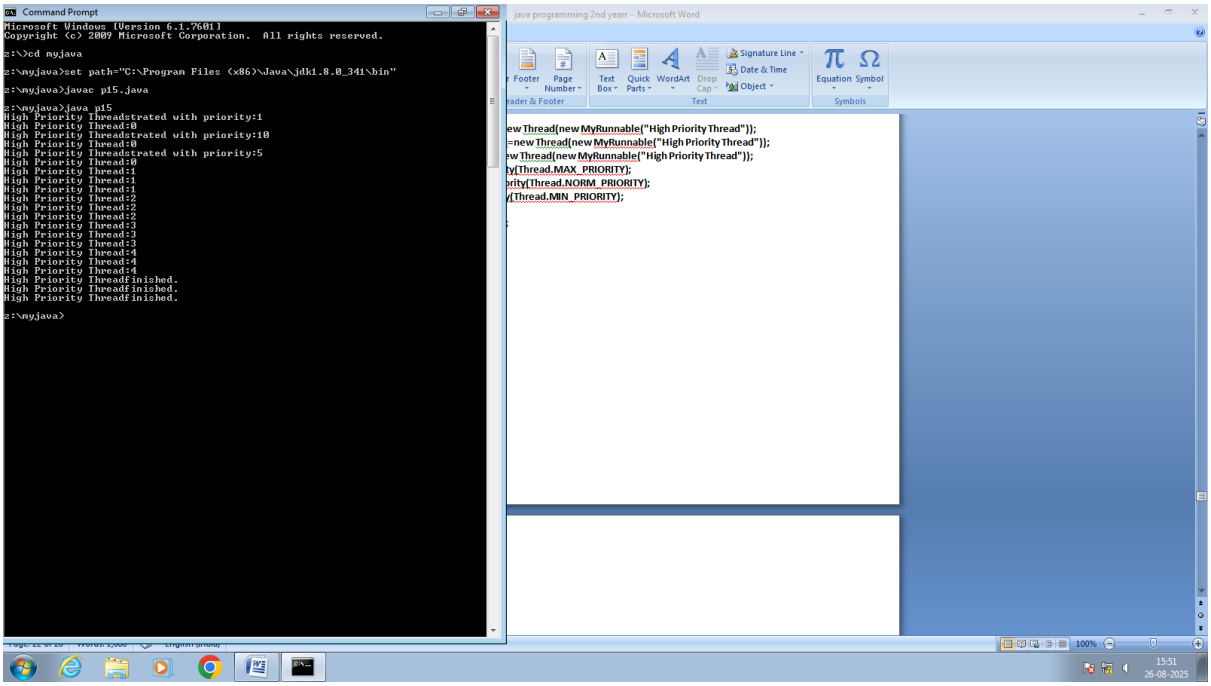
OUTPUT


Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
z:\>cd myjava
z:\myjava>set path="C:\Program Files (x86)\Java\jdk1.8.0_341\bin"
z:\myjava>javac p14.java
z:\myjava>java p14
1x 5=5
2x 5=10
3x 5=15
4x 5=20
5x 5=25
6x 5=30
7x 5=35
8x 5=40
9x 5=45
10x 5=50
1x 7=7
2x 7=14
3x 7=21
4x 7=28
5x 7=35
6x 7=42
7x 7=49
8x 7=56
9x 7=63
10x 7=70
1x 13=13
2x 13=26
3x 13=39
4x 13=52
5x 13=65
6x 13=78
7x 13=91
8x 13=104
9x 13=117
10x 13=130
z:\myjava>
java programming 2nd year - Microsoft Word
Heading 1
Heading 2
Title
Subtitle
Emphasis
Strong
Quote
Change Styles
Find
Replace
Select
Styles
Editing
Search bin
New folder
Date modified
Type
Size
Application
100%
15:34
25-08-2025

15.THREAD PRIORITIES

```
class MyRunnable implements Runnable{
private String threadName;
public MyRunnable(String name)
{
this.threadName=name;
}
@Override
public void run()
{
System.out.println(threadName+"strated with priority:"+Thread.currentThread().getPriority());
for(int i=0;i<5;i++)
{
System.out.println(threadName+":"+i);
try
{
Thread.sleep(10);
}
catch(InterruptedException e){
e.printStackTrace();}
}
System.out.println(threadName +"finished.");
}
}
public class p15
{
public static void main(String[] args)
{
Thread highPriorityThread=new Thread(new MyRunnable("High Priority Thread"));
Thread normalPriorityThread=new Thread(new MyRunnable("High Priority Thread"));
Thread lowPriorityThread=new Thread(new MyRunnable("High Priority Thread"));
 highPriorityThread.setPriority(Thread.MAX_PRIORITY);
normalPriorityThread.setPriority(Thread.NORM_PRIORITY);
lowPriorityThread.setPriority(Thread.MIN_PRIORITY);
lowPriorityThread.start();
normalPriorityThread.start();
highPriorityThread.start();
}
}
```

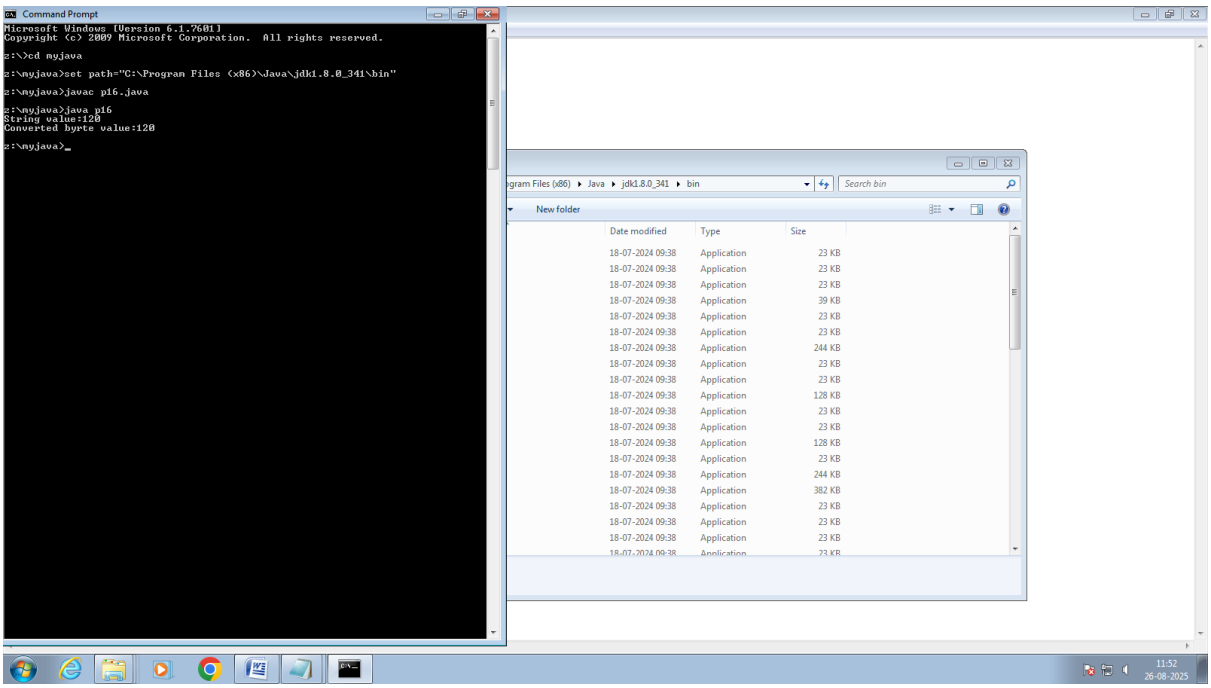
OUTPUT


Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
z:\>cd myjava
z:\myjava>set path="C:\Program Files (x86)\Java\jdk1.8.0_341\bin"
z:\myjava>javac p15.java
z:\myjava>java p15
High Priority Threadstrated with priority:1
High Priority Thread:0
High Priority Threadstrated with priority:10
High Priority Thread:0
High Priority Threadstrated with priority:5
High Priority Thread:0
High Priority Thread:1
High Priority Thread:1
High Priority Thread:1
High Priority Thread:2
High Priority Thread:2
High Priority Thread:2
High Priority Thread:3
High Priority Thread:3
High Priority Thread:3
High Priority Thread:4
High Priority Thread:4
High Priority Thread:4
High Priority Threadfinished.
High Priority Threadfinished.
High Priority Threadfinished.
z:\myjava>
java programming 2nd yearr - Microsoft Word
Footer
Page Number
Text Box
Quick Parts
WordArt
Drop Cap
Signature Line
Date & Time
Object
Equation
Symbol
Text
Symbols
ew Thread(new MyRunnable("High Priority Thread"));
=new Thread(new MyRunnable("High Priority Thread"));
ew Thread(new MyRunnable("High Priority Thread"));
y[Thread.MAX_PRIORITY);
rity[Thread.NORM_PRIORITY];
y[Thread.MIN_PRIORITY];
100%
15:51
26-08-2025

16. STRING VALUE TO BYTE VALUE

```
public class p16 {
public static void main(String[] args) {
String str="120";
byte b=Byte.parseByte(str);
System.out.println("String value:"+str);
System.out.println("Converted byrte value:"+b);
}
}
```

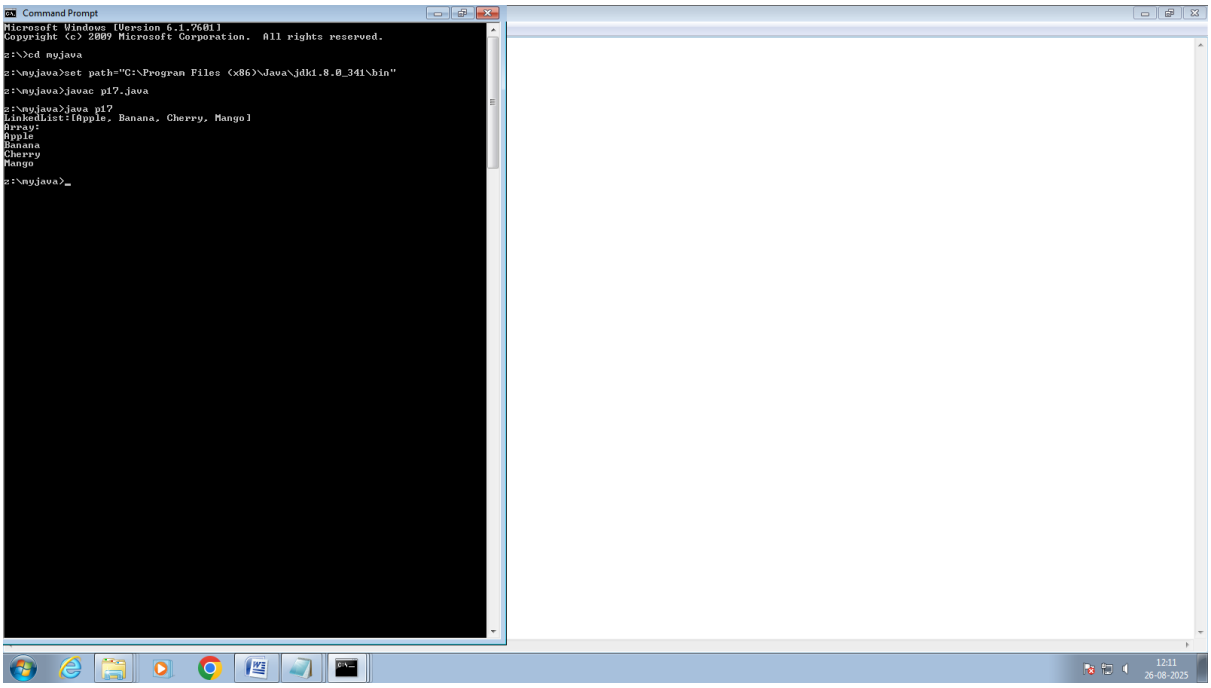
OUTPUT



17. LINKED LISDT TO AN ARRAY

```
import java.util.*;
class p17
{
public static void main(String[] args)
{
LinkedList<String> list=new LinkedList<>();
list.add("Apple");
list.add("Banana");
list.add("Cherry");
list.add("Mango");
System.out.println("LinkedList:"+list);
String[] arr=new String[list.size()];
list.toArray(arr);
System.out.println("Array:");
for(String element : arr) {
System.out.println(element+"");
}
}
}
```

OUTPUT



18. TO ROTATE AN ELEMENTS OF A LIST

```
import java.util.*;
public class p18 {
public static void main(String[] args) {
List<Integer>numbers=new ArrayList<>();
numbers.add(10);
numbers.add(20);
numbers.add(30);
numbers.add(40);
numbers.add(50);
System.out.println("Original List:"+numbers);
Collections.rotate(numbers,2);
System.out.println("List after rotation:"+numbers);
}
}
```

Output