Tugas Pemrograman Berbasis Objek

Virtual Class 10

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1. Hexadecimal ke Decimal

VClass 10 - heksadesimal.java

```java
import java.io.IOException;
import java.util.Scanner;

class cekHex extends RuntimeException {
    private static final long serialVersionUID = 1L;
}

public class heksadesimal {
    public static void main(String[] args) throws IOException {
        System.out.print("Masukan Bilangan HEX = ");
        Scanner s = new Scanner(System.in);
        String kata = s.nextLine();
        String a = kata.toLowerCase();
        char[] ch = new char[a.length()];
        char[] hex = new char[] { 'a', 'b', 'c', 'd', 'e', 'f', '1', '2'
, '3', '4', '5', '6', '7', '8', '9' };

        // masukin string input ke array char
        for (int i = 0; i < a.length(); i++) {
            ch[i] = a.charAt(i);
        }

        try {
            // cek apakah setiap char termasuk hex
            boolean status = false;
            for (int j = 0; j < ch.length; j++) {
                for (int i = 0; i < hex.length; i++) {
                    if (ch[j] == hex[i]) {
                        status = true;
                        continue;
                    }
                }
            }

            if (status = false) {
                throw new cekHex();
            } else {
                // mengubah array char kedalam bentuk decimal
                System.out.print("Ouput : " + Integer.parseInt(a, 16));
            }

        } catch (Exception e) {
            System.out.println("Output : Input Bukan Bilangan HEX");
        }
        s.close();
    }
}
```

```
Masukan Bilangan HEX = AAF
Ouput : 2735
```

```
Masukan Bilangan HEX = AAG
Output : Input Bukan Bilangan HEX
```

2. Pola Diamond

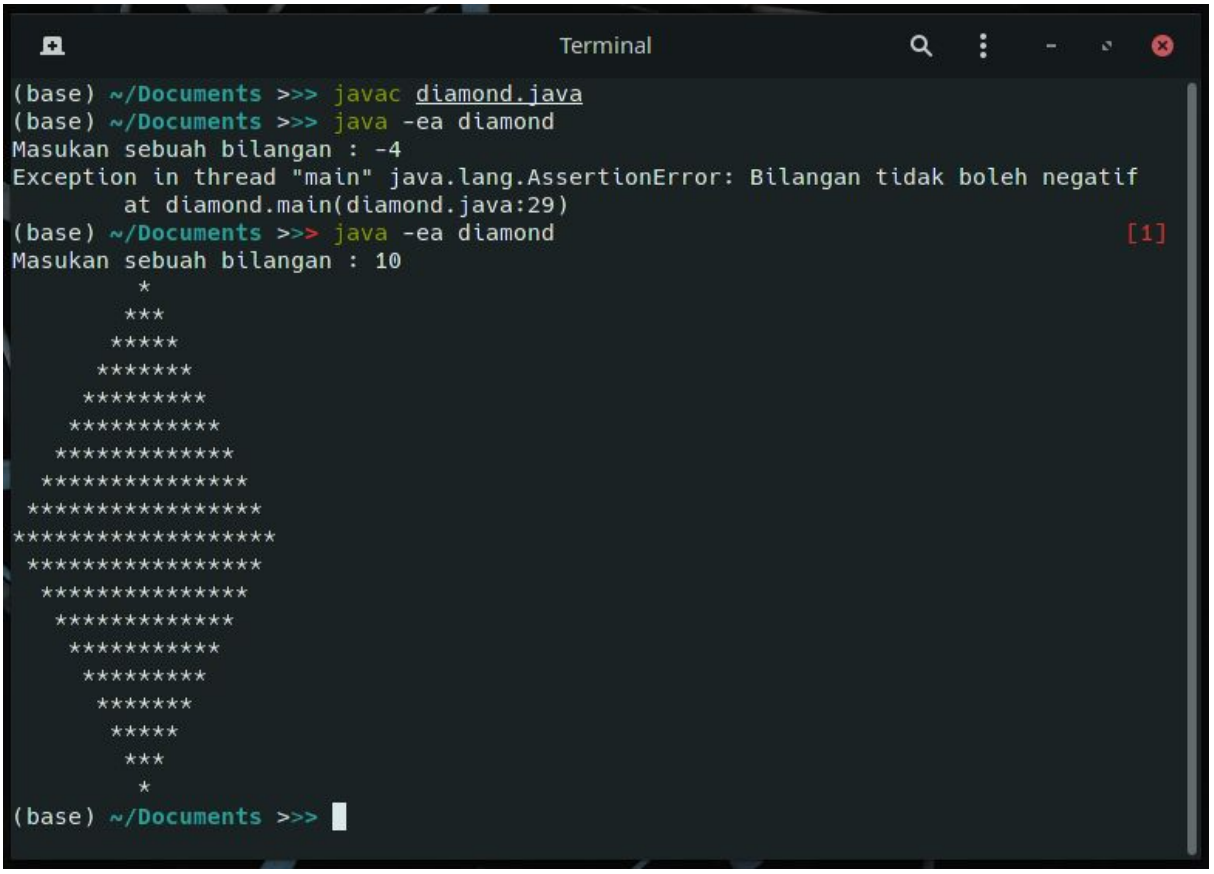
VClass 10 - diamond.java

```java
import java.util.Scanner;

class cetak {
    public void p1(int a) {
        for (int x = 1; x <= a; x++) {
            System.out.print(" ");
        }
    }
    public void p2(int a) {
        if (a == 1) {
            for (int x = 1; x <= a; x++) {
                System.out.print("*");
            }
        } else {
            for (int x = 1; x <= a + a - 1; x++) {
                System.out.print("*");
            }
        }
    }
}

public class diamond {
    public static void main(String[] args) {
        System.out.print("Masukan sebuah bilangan : ");
        cetak c = new cetak();
        Scanner s = new Scanner(System.in);
        int n = s.nextInt();
        assert n > 0:"Bilangan tidak boleh negatif";

        for (int i = 1; i <= n; i++) {
            c.p1(n - i);
            c.p2(i);
            c.p1(n - i);
            System.out.println("");
        }
        for (int i = n - 1; i >= 1; i--) {
            c.p1(n - i);
            c.p2(i);
            c.p1(n - i);
            System.out.println("");
        }
        s.close();
    }
}
```


Terminal
(base) ~/Documents >>> javac diamond.java
(base) ~/Documents >>> java -ea diamond
Masukan sebuah bilangan : -4
Exception in thread "main" java.lang.AssertionError: Bilangan tidak boleh negatif
at diamond.main(diamond.java:29)
(base) ~/Documents >>> java -ea diamond
[1]
Masukan sebuah bilangan : 10
*
***
*****
****
****
****
****
****
****
****
****
****
****
****
****
****
*****
***
*
(base) ~/Documents >>>

3. Banner Nama

VClass 10 - banner.java

```java
import javax.swing.JFrame;

public class banner {
    private pengaturan atur;
    public banner() {
        JFrame frame = new JFrame();
        atur = new pengaturan();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setBounds(80, 50, 460, 150);
        frame.add(atur);
        frame.setVisible(true);
        new Thread(atur).start();
    }
    public static void main(String[] args) {
        banner banner = new banner();
    }
}
```

VClass 10 - pengaturan.java

```java
import java.awt.Color;

public class pengaturan extends javax.swing.JPanel implements Runnable {
    private static final long serialVersionUID = 1L;
    private javax.swing.JLabel label;

    public pengaturan() {
        setLayout(null);
        label = new javax.swing.JLabel("Muhammad Shiddiq Fathullah");
        setBackground(Color.darkGray);
        add(label);
    }

    @Override
    public void run() {
        int x = 190, y = 10;
        while (true) {
            label.setForeground(Color.GREEN);
            label.setBounds(x, y, 400, 90);
            if (x == 190) {
                x -= 170;
            } else {
                x += 5;
            }
            try {
                Thread.sleep(100);
            } catch (InterruptedException e) {
            }
        }
    }
}
```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