

1. Tujuan

- Menggunakan struktur kontrol keputusan (if, else, switch) yang digunakan untuk memilih blok kode yang akan dieksekusi
- Menggunakan struktur kontrol pengulangan (while, do-while, for) yang digunakan untuk melakukan pengulangan pada blok kode yang akan dieksekusi
- Menggunakan statement percabangan (break, continue, return) yang digunakan untuk mengatur redirection dari program

2. Latar Belakang

Pada bab sebelumnya, kita sudah mendapatkan contoh dari program sequential, dimana statement dieksekusi setelah statement sebelumnya dengan urutan tertentu. Pada bagian ini, kita mempelajari tentang struktur kontrol yang bertujuan agar kita dapat menentukan urutan statement yang akan dieksekusi.

Struktur kontrol keputusan adalah statement dari Java yang memungkinkan user untuk memilih dan mengeksekusi blok kode dan mengabaikan blok kode yang lain.

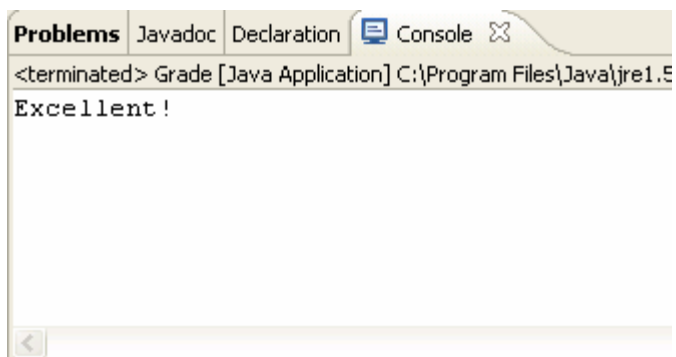
3. Percobaan

Percobaan 1 Statement if :

```
public class Grade {  
  
    public static void main( String[] args )  
    {  
  
        double grade = 92.0;  
  
        if( grade >= 90 ){  
  
            System.out.println( "Excellent!" );  
  
        }  
    }  
}
```

```
}  
  
    else if( (grade < 90) && (grade >= 80)){  
        System.out.println("Good job!" );  
    }  
  
    else if( (grade < 80) && (grade >= 60)){  
        System.out.println("Study harder!" );  
    }  
  
    else{  
        System.out.println("Sorry, you failed.");  
    }  
  
}  
  
}
```

Hasil Percobaan 1 :

A screenshot of a Java IDE's console window. The window has tabs for "Problems", "Javadoc", "Declaration", and "Console". The "Console" tab is active, showing the output of a Java application: "<terminated> Grade [Java Application] C:\Program Files\Java\jre1.5" followed by "Excellent!".

```
Problems Javadoc Declaration Console  
<terminated> Grade [Java Application] C:\Program Files\Java\jre1.5  
Excellent!
```

Percobaan 2 Statement switch:

```
public class Grade2
{
    public static void main( String[] args )
    {
        int grade = 92;

        switch(grade){
        case 100:
            System.out.println( "Excellent!" );
            break;
        case 90:
            System.out.println("Good job!" );
            break;
        case 80:
            System.out.println("Study harder!" );
            break;
        default:
            System.out.println("Sorry, you failed.");
        }
    }
}
```



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Hasil Percobaan 2 Output :

```
Problems  Javadoc  Declaration  Console  ✕  
<terminated> Grade2 [Java Application] C:\Program Files\Java\jre1.5  
Sorry, you failed.
```

Percobaan 3 Statement break:

```
public class Grade3
{
    public static void main( String[] args )
    {
        String names[] = {"Beah", "Bianca", "Lance", "Belle",
            "Nico", "Yza", "Gem", "Ethan"};

        String      searchName = "Yza";
        boolean      foundName = false;

        for( int i=0; i< names.length; i++ ){
            if( names[i].equals( searchName )){
                foundName = true;
                break;
            }
        }
        if( foundName ){
            System.out.println( searchName + " found!" );
        }
        else{
            System.out.println( searchName + " not found." );
        }
    }
}
```



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Hasil Percobaan 3 Output :

```
Problems Javadoc Declaration Console X  
<terminated> Grade2 [Java Application] C:\Program Files\...  
Yza found!
```

Percobaan 4 Labeled break statement:

```
public class Grade4
{
    public static void main( String[] args )
    {
        String names[] = {"Beah", "Bianca", "Lance", "Beah"};
        int count = 0;

        for( int i=0; i<names.length; i++ ){

            if( !names[i].equals("Beah") ){

                continue;    //skip next statement

            }

            count++;

        }

        System.out.println("There are " + count + " Beahs in the list");

    }
}
```



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Hasil Percobaan 4 Output :

```
Problems Javadoc Declaration Console    
<terminated> Grade2 [Java Application] C:\Program Files\Java\jre  
5 found!
```


Percobaan 5 Continue statement:

```
public class Grade5
{
    public static void main( String[] args )
    {
        String names[] = {"Beah", "Bianca", "Lance", "Beah"};
        int count = 0;

        for( int i=0; i<names.length; i++ ){

            if( !names[i].equals("Beah") ){
                continue; //skip next statement
            }

            count++;

        }

        System.out.println("There are " + count + " Beahs in the list");

    }
}
```



Hasil Percobaan 5 Output :

```
Problems Javadoc Declaration Console
<terminated> Grade2 [Java Application] C:\Program Files\Java\jre1.5
There are 2 Beahs in the list
```

Percobaan 6 Labeled statement continue:

```
public class Grade6
{
    public static void main( String[] args )
    {
        outerLoop:
            for( int i=0; i<5; i++ ){

                for( int j=0; j<5; j++ ){
                    System.out.println("Inside for(j) loop"); //message1
                    if( j == 2 )        continue outerLoop;
                }

                System.out.println("Inside for(i) loop"); //message2
            }
    }
}
```



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Hasil Percobaan 6 Output :

```
Problems Javadoc Declaration Console
<terminated> Grade6 [Java Application] C:\Prog
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
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Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
Inside for (j) loop
```