

**Pemrograman Mobile**  
**Pengantar Bahasa Pemrograman Dart - Bagian 2**



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## Praktikum 1: Menerapkan Control Flows ("if/else")

### Langkah 1

Ketik atau salin kode program berikut ke dalam fungsi main().

```
1 void main() {
2     String test = "test2";
3     if (test == "test1") {
4         print("Test1");
5     } else if (test == "test2") {
6         print("Test2");
7     } else {
8         print("Something else");
9     }
10
11     if (test == "test2") print("Test2 again");
12 }
```

### Langkah 2

Silakan coba eksekusi (Run) kode pada langkah 1 tersebut. Apa yang terjadi? Jelaskan!

```
Connecting to VM Service at ws://127.0.0.1:53819/Lc7jIXpi0xw=/ws
Connected to the VM Service.
Test2
Test2 again

Exited.
```

### Langkah 3

Tambahkan kode program berikut, lalu coba eksekusi (Run) kode Anda.

```
void main() {
    String test = "true";
    if (test) {
        print("Kebenaran");
    }
}
```

Apa yang terjadi ? Jika terjadi error, silakan perbaiki namun tetap menggunakan if/else.

```
⊗ Conditions must have a static type of 'bool'. dart(non_bool_condition) [Ln 3, Col 7] ^
Try changing the condition.
```

Perbaiki kode:

```
void main() {
    String test = "true";
    if (test == "true") {
        print("Kebenaran");
    } else {
        print("Kesalahan");
    }
}
```

Output:

```
Connecting to VM Service at ws://127.0.0.1:53975/pYCua9HFBLg=/ws
Connected to the VM Service.
Kebenaran

Exited.
```

## Praktikum 2: Menerapkan Perulangan "while" dan "do-while"

Langkah 1:

Ketik atau salin kode program berikut ke dalam fungsi main().

```
void main() {
  while (counter < 33) {
    print(counter);
    counter++;
  }
}
```

Langkah 2:

Silakan coba eksekusi (Run) kode pada langkah 1 tersebut. Apa yang terjadi? Jelaskan! Lalu perbaiki jika terjadi error.

```
⊗ Undefined name 'counter'. dart(undefined_identifier) [Ln 2, Col 10] ^
  Try correcting the name to one that is defined, or defining the name.
⊗ Undefined name 'counter'. dart(undefined_identifier) [Ln 3, Col 11] ^
  Try correcting the name to one that is defined, or defining the name.
⊗ Undefined name 'counter'. dart(undefined_identifier) [Ln 4, Col 5] ^
  Try correcting the name to one that is defined, or defining the name.
```

Perbaiki kode:

```
void main() {
  int counter = 30;
  while (counter < 33) {
    print(counter);
    counter++;
  }
}
```

Output:

```
Connecting to VM Service at ws://127.0.0.1:54005/J35Fr16f2dM=/ws
Connected to the VM Service.
30
31
32

Exited.
```

### Langkah 3

Tambahkan kode program berikut, lalu coba eksekusi (Run) kode Anda.

```
void main() {  
  do {  
    print(counter);  
    counter++;  
  } while (counter < 77);  
}
```

Output:

```
⊗ Undefined name 'counter'. dart(undefined_identifier) [Ln 3, Col 11] ^  
  Try correcting the name to one that is defined, or defining the name.  
⊗ Undefined name 'counter'. dart(undefined_identifier) [Ln 4, Col 5] ^  
  Try correcting the name to one that is defined, or defining the name.  
⊗ Undefined name 'counter'. dart(undefined_identifier) [Ln 5, Col 12] ^  
  Try correcting the name to one that is defined, or defining the name.
```

Perbaiki kode:

```
void main() {  
  int counter = 70;  
  do {  
    print(counter);  
    counter++;  
  } while (counter < 77);  
}
```

Output:

```
Connecting to VM Service at ws://127.0.0.1:54029/SrLgwKP7RR0=/ws  
Connected to the VM Service.  
70  
71  
72  
73  
74  
75  
76  
  
Exited.
```

## Praktikum 3: Menerapkan Perulangan "for" dan "break-continue"

### Langkah 1

Ketik atau salin kode program berikut ke dalam fungsi main().

```
void main() {  
    for (int index = 10; index < 27; index) {  
        print(index);  
    }  
}
```

### Langkah 2

Silakan coba eksekusi (Run) kode pada langkah 1 tersebut. Apa yang terjadi? Jelaskan! Lalu perbaiki jika terjadi error.

```
void main() {  
    for (index = 10; index < 27; index) {  
        print(index);  
    }  
}
```

Terjadi error dikarenakan index tidak diberikan tipe data dan tidak dilakukan increment sehingga akan menyebabkan infinite loop. Sehingga perlu dimodifikasi demikian;

```
void main() {  
    for (int index = 10; index < 27; index++) {  
        print(index);  
    }  
}
```

Output:

```
Connecting to VM Service at ws://127.0.0.1:54492/MPMqkaIAOUs=/ws  
Connected to the VM Service.  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
  
Exited.
```

### Langkah 3

Tambahkan kode program berikut di dalam *for-loop*, lalu coba eksekusi (Run) kode Anda.

```
void main() {  
    for (int index = 10; index < 27; index++) {  
        if (index == 21)  
            break;  
        else if (index > 1 || index < 7)  
            continue;  
        print(index);  
    }  
}
```

Apa yang terjadi ? Jika terjadi error, silakan perbaiki namun tetap menggunakan *for* dan *break-continue*.

```
Connecting to VM Service at ws://127.0.0.1:54544/3Z01YjWbSb8=/ws  
Connected to the VM Service.  
  
Exited.
```

Tidak ada output apapun karena line `print()` di-skip ketika index lebih dari 1 pada line *if-else*

### Tugas Praktikum

Buatlah sebuah program yang dapat menampilkan bilangan prima dari angka 0 sampai 201 menggunakan Dart. Ketika bilangan prima ditemukan, maka tampilkan nama lengkap dan NIM Anda.

Code:

```
import 'dart:math';  
  
Run | Debug  
void main() {  
    for (int i = 0; i < 201; i++) {  
        bool prima = true;  
  
        if (i <= 1) {  
            prima = false;  
        } else {  
            for (int j = 2; j <= sqrt(i).toInt(); j++) {  
                if (i % j == 0) {  
                    prima = false;  
                    break;  
                }  
            }  
        }  
  
        if (prima) {  
            print('Bilangan prima: $i');  
            print('Rocky Alessandro Kristanto 2341720197');  
            break;  
        }  
    }  
}
```

Output:

```
Connecting to VM Service at ws://127.0.0.1:57777/OFZLGGsJtrU=/ws
Connected to the VM Service.
Bilangan prima: 2
Rocky Alessandro Kristanto 2341720197

Exited.
```