Practicum 1

Step 1 :

Type and copy the following program code into the main() function

```
void main(){
  String test = "test2";
  if (test == "test1") {
    print("Test1");
  } else if (test == "test2") {
    print("Test2");
  } else {
    print("Something else");
  }

  if (test == "test2") print("Test2 again");
}
```

Output:
```
Test2
Test2 again
```

Step 2 :

Please try executing (Run) the code in step 1. What happens? Explain!
- The result is just like the image above displaying Test2. Because the variable was defined "test2". so, the code in the 5th line will triggered.

Step 3 :

Add the following program code, then try executing (Run) your code.

```
void main() {

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

```
compileDDC
main.dart:4:7: Error: A value of type 'String' can't be assigned to a variable of type 'bool'.
  if (test) {
      ^
```

What happened? If an error occurs, please fix it but still use if/else.
- when I run the code directly, there is an error like the image above appeared. because there is no equality checking on if() and maybe we have to change the data type of test variable to be bool. so, we don't need to make a **"true"**. just type **true** to define the variable

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

Output:
```
Kebenaran
```

so I've fixed that code by changing the variable to be bool and adding equality checking on the if().

Practical 2: Implementing "while" and "do-while" Loops

Step 1:

Type or copy the following program code into the main() function.

```
void main() {

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

```
compileDDC
main.dart:3:11: Error: Undefined name 'counter'.
  while (counter < 33) {
         ^^^^^^^
main.dart:4:11: Error: Undefined name 'counter'.
    print(counter);
          ^^^^^^^
main.dart:5:5: Error: Getter not found: 'counter'.
    counter++;
    ^^^^^^^
```

Step 2:

Please try to execute (Run) the code in step 1. What happens? Explain! Then fix it if there is an error.

- when I run the code directly, there are errors like the image above appeared. because there is no variable defined before while process.

```
void main() {
    int counter = 0;
    while (counter < 33) {
      print(counter);
      counter++;
    }
}
```

```
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
```

- I've fixed this by adding an int variable and the result is like this.

Step 3 :.

Add the following program code, then try to execute (run) your code

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

```
compileDDC
main.dart:31:11: Error: Undefined name 'counter'.
    print(counter);
          ^^^^^^^
main.dart:32:5: Error: Getter not found: 'counter'.
    counter++;
    ^^^^^^^
main.dart:33:12: Error: Undefined name 'counter'.
  } while (counter < 77);
           ^^^^^^^
```

What happened? If an error occurs, please fix it but still use do-while.

What happened? If an error occurs, please fix it but still use do-while

```
void main(){
  int counter = 0;
  do {
    print(counter);
    counter++;
  } while (counter < 77);
}
```

```
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
```

- I've fixed this by adding an int variable on the top of do-while

Step 1:
Type or copy the following program code into the main() function.

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

```
compileDDC
main.dart:38:20: Error: Undefined name 'index'.
  for (Index = 10; index < 27; index) {
                   ^^^^^
main.dart:39:9: Error: Undefined name 'Index'.
  print(Index);
        ^^^^^
main.dart:38:32: Error: Undefined name 'index'.
  for (Index = 10; index < 27; index) {
                               ^^^^^
main.dart:38:8: Error: Setter not found: 'Index'.
  for (Index = 10; index < 27; index) {
       ^^^^^
```

Step 2:
Please try to execute (Run) the code in step 1. What happens? Explain! Then fix it if there is an error.
- Some errors like the picture above will occur because like the problem before there is no variable defined on the if().

```
                                                          10
                                                          11
                                                          12
                                                          13
                                                          14
                                                          15
                                                          16
                                                          17
                                                          18
                                                          19
                                                          20
                                                          21
                                                          22
void main(){                                              23
  for (int index = 10; index < 27; index++) {            24
    print(index);                                         25
  }                                                       26
}
```

- I've fixed this by adding **int** before **index = 10** as a variable on the **'for'** looping system and adding **++** at the end of the looping

Step 3:

Add the following program code inside the for-loop, then try executing (Run) your code.

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

```
compileDDC
main.dart:39:9: Error: Undefined name 'Index'.
  If (Index == 21) break;
      ^^^^^
main.dart:39:5: Error: Method not found: 'If'.
  If (Index == 21) break;
  ^^
main.dart:39:20: Error: Expected ';' after this.
  If (Index == 21) break;
                 ^
main.dart:40:5: Error: 'Else' isn't a type.
  Else If (index > 1 || index < 7) continue;
  ^^^^
main.dart:39:5: Error: Local variable 'If' can't be referenced before it is declared.
  If (Index == 21) break;
  ^^
main.dart:40:10: Context: This is the declaration of the variable 'If'.
  Else If (index > 1 || index < 7) continue;
       ^^
main.dart:40:10: Error: Expected ';' after this.
  Else If (index > 1 || index < 7) continue;
       ^^
main.dart:40:36: Error: Expected ';' after this.
  Else If (index > 1 || index < 7) continue;
                                 ^
```

What happened? If an error occurs, please fix it but still use for and break-continue.

- some errors like the picture above will occur

```dart
1 void main() {
2     for (int index = 0; index < 27; index++) {
3         if (index == 21) {
4             break;
5         }
6         else if (index > 1 && index < 7) {
7             continue;
8         }
9         print(index);
10    }
11 }
12
```

Output:
```
0
1
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

Assignment

```dart
void main() {
  String Name = 'Davis Maulana Hermanto';
  String NIM = '2241720255';

  for (int i = 2; i <= 201; i++) {
    if (isPrime(i)){
      print('$i adalah bilangan prima.');
      print('Nama: $Name');
      print('NIM: $NIM\n');
    }
  }
}

bool isPrime(int number) {
  if (number <= 1) return false;
  for (int i = 2; i <= number ~/ 2; i++) {
    if (number % i == 0) return false;
  }
  return true;
}
```

DEBUG CONSOLE

```
Nama: Davis Maulana Hermanto
NIM: 2241720255

199 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

Exited.
```

RUN AND DEBUG

∨ RUN

Run and Debug

To customize Run and Debug create a launch.json file.

Show all automatic debug configurations.

∨ BREAKPOINTS
☐ All Exceptions
☑ Uncaught Exceptions

Welcome   practicum3.dart   Release Notes: 1.93.0   practicum2.dart   practicum1.dart   assignment.dart ✕

E: > KULIYEAH > sem 5 > android > assignment.dart > ⚙ isPrime
Run | Debug | Codeium: Refactor | Explain | Generate Function Comment | ✕
```
1   void main() {
2       String Name = 'Davis Maulana Hermanto';
3       String NIM = '2241720255';
4
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS

```
Connecting to VM Service at ws://127.0.0.1:55511/XxhWY3FpH78=/ws
Connected to the VM Service.
2 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

3 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

5 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

7 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

11 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

13 adalah bilangan prima.
Nama: Davis Maulana Hermanto
NIM: 2241720255

17 adalah bilangan prima.
```