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Mata Kuliah : Mobile Programming 1
Soal : Program Dasar Dart ke 2



Praktikum 1

```
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 }
```

Test2
test2 again

String test merupakan deklarasi variable test yang bertipe string dan memiliki value test2.

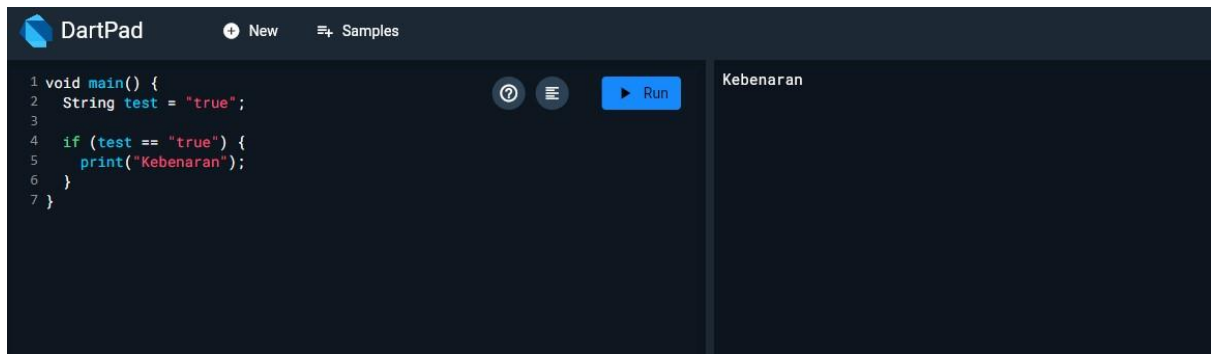
(If) yang pertama memiliki value test1 maka akan memberikan output test1, begitupun juga dengan if yang kedua (else if), dan yang if ketiga (else) selain yang bernilai test1 dan test2 maka akan memberikan hasil output something else.

Dan if yang terakhir adalah, dikarenakan variable test memiliki value test2 maka memberikan output test2 again.

```
1 void main() {  
2   String test = "true";  
3  
4   if (test) {  
5     print("Kebenaran");  
6   }  
7 }
```

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

Dalam kode "if (test)" yang menyebabkan error karena if langsung menerima string dan tidak ada nilainya, maka tambahkan if (test == "true") agar memiliki nilai benar, dan memberikan hasil kode dengan output dibawah ini.



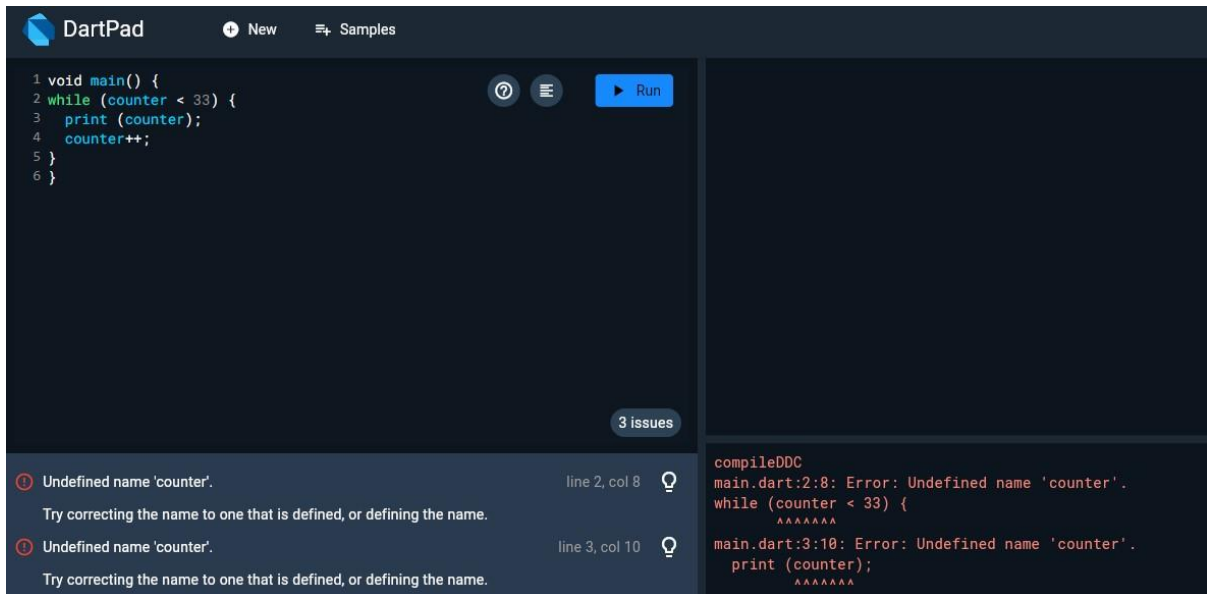
The image shows a screenshot of the DartPad web editor. The interface has a dark theme. At the top, there's a header with the DartPad logo, a 'New' button, and a 'Samples' button. Below the header, the code editor area contains the following Dart code:

```
1 void main() {  
2   String test = "true";  
3  
4   if (test == "true") {  
5     print("Kebenaran");  
6   }  
7 }
```

To the right of the code editor, there are three icons: a question mark, a hamburger menu, and a blue 'Run' button. Below the code editor, the output area is visible, showing the text 'Kebenaran'.

Praktikum 2

Ketika menjalankan Langkah satu terdapat error karena variable counter belum di deklarasikan sebelum diinput dalam perulangan while.



The screenshot shows the DartPad interface with a code editor on the left and a console on the right. The code in the editor is:

```
1 void main() {  
2   while (counter < 33) {  
3     print (counter);  
4     counter++;  
5   }  
6 }
```

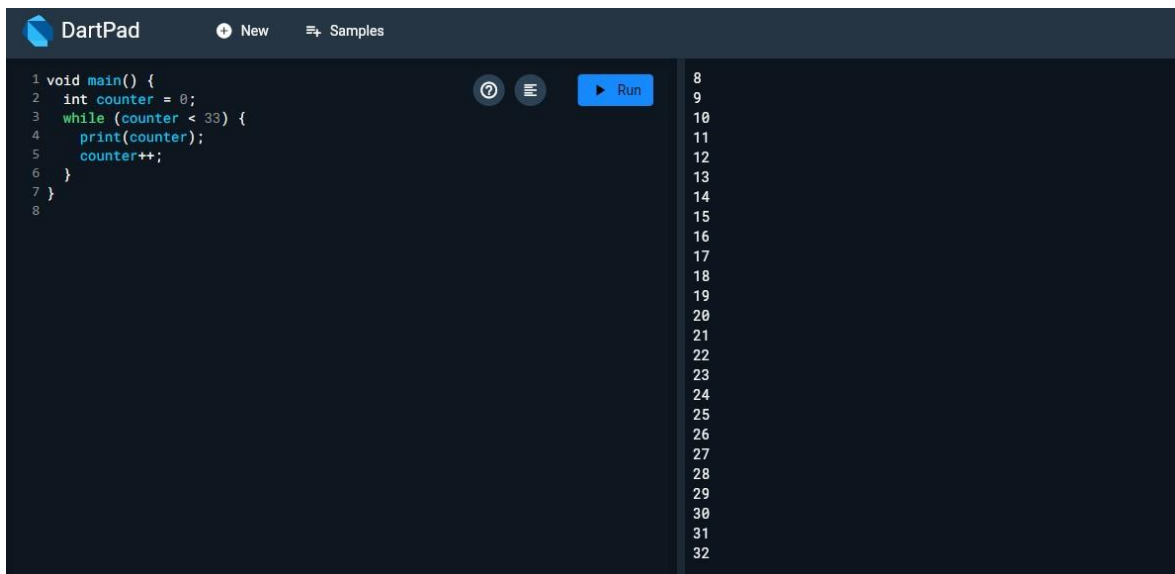
The console shows the following error messages:

```
compileDDC  
main.dart:2:8: Error: Undefined name 'counter'.  
while (counter < 33) {  
    ^^^^^^^  
main.dart:3:10: Error: Undefined name 'counter'.  
  print (counter);  
    ^^^^^^^
```

Below the code editor, there are three issues listed:

- Undefined name 'counter'. line 2, col 8
- Undefined name 'counter'. line 3, col 10

Maka menambahkan deklarasi `int counter = 0;` sebelum menjalankan perulangan while.



The screenshot shows the DartPad interface with the same code editor and console. The code in the editor is now:

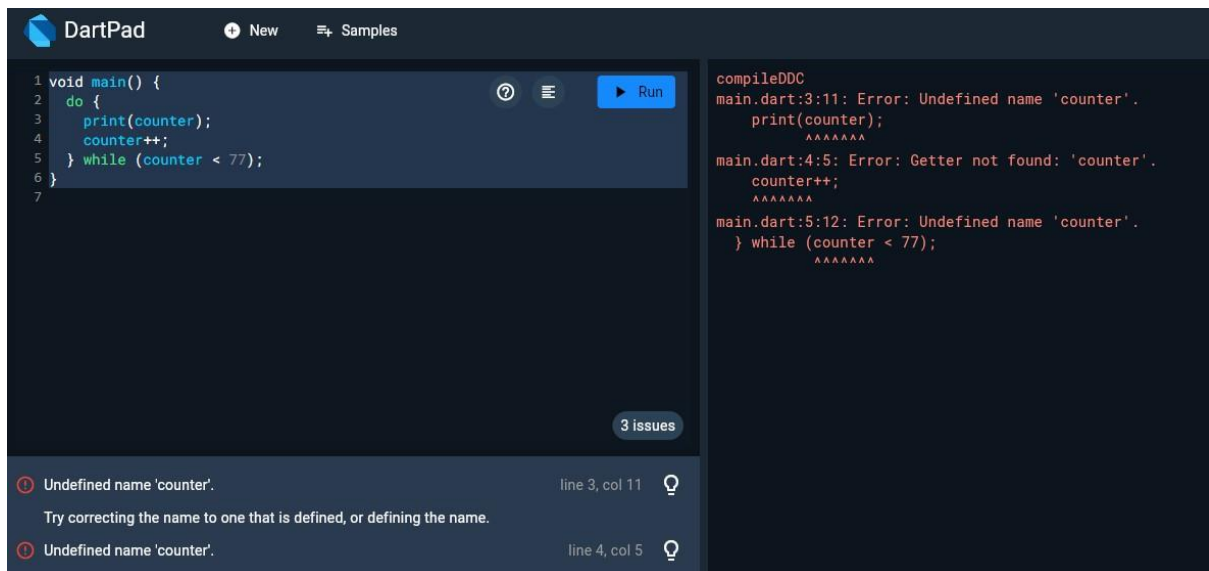
```
1 void main() {  
2   int counter = 0;  
3   while (counter < 33) {  
4     print(counter);  
5     counter++;  
6   }  
7 }  
8
```

The console shows the output of the program, which is a series of numbers from 0 to 32, each on a new line:

```
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  
31  
32
```

Program memberikan output dari 0 hingga 32 karena while akan terus berjalan selama `counter < 33`.

Ketika menjalankan Langkah tiga terdapat error karena variable counter belum di deklarasikan sebelum dipakai.



The screenshot shows the DartPad interface with a code editor on the left and a console on the right. The code in the editor is a do-while loop that prints and increments a variable named 'counter' until it is less than 77. The console shows three error messages: 'Undefined name 'counter'' at line 3, col 11; 'Error: Getter not found: 'counter'' at line 4, col 5; and 'Undefined name 'counter'' at line 5, col 12. A status bar at the bottom indicates '3 issues'.

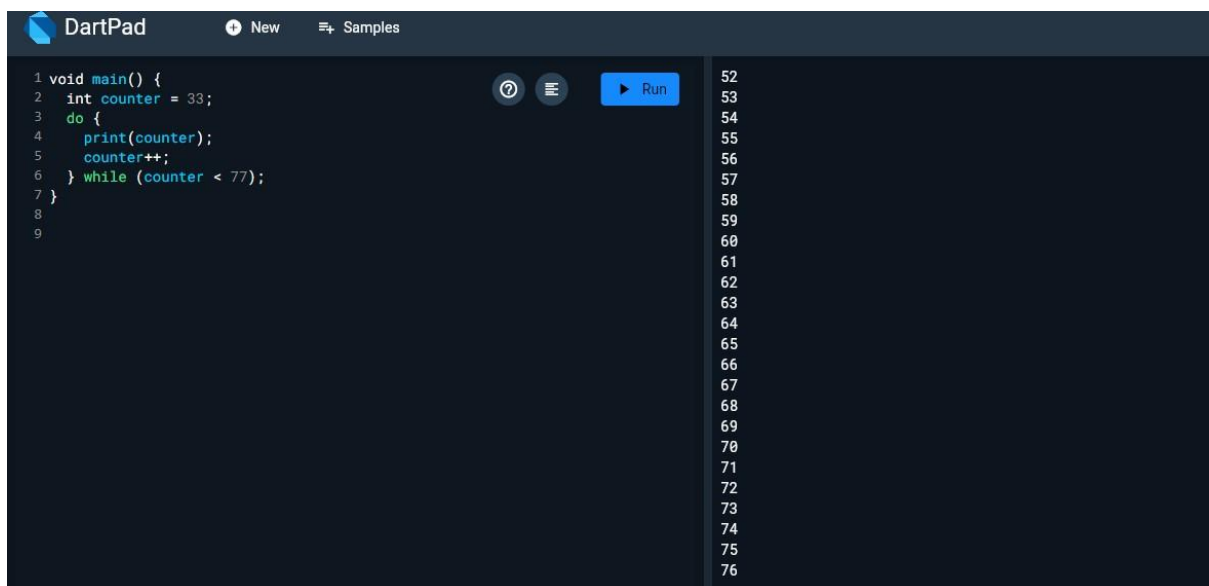
```
1 void main() {  
2   do {  
3     print(counter);  
4     counter++;  
5   } while (counter < 77);  
6 }  
7
```

compiledDCC
main.dart:3:11: Error: Undefined name 'counter'.
 print(counter);
 ^^^^^^^
main.dart:4:5: Error: Getter not found: 'counter'.
 counter++;
 ^^^^^^^
main.dart:5:12: Error: Undefined name 'counter'.
 } while (counter < 77);
 ^^^^^^^

3 issues

- Undefined name 'counter'. line 3, col 11
- Try correcting the name to one that is defined, or defining the name.
- Undefined name 'counter'. line 4, col 5

counter langsung dipakai dalam kode `print(counter);` dan `counter++`; padahal belum di definisikan, dan jika counter di deklarasikan dalam do pun akan tetap error karena tidak memiliki value awal yang bisa dipakai dalam perbandingan `while (counter < 77);`



The screenshot shows the DartPad interface with a code editor on the left and a console on the right. The code in the editor is a do-while loop that prints and increments a variable named 'counter' until it is less than 77. The console shows the output of the loop, which is the numbers 33 through 76.

```
1 void main() {  
2   int counter = 33;  
3   do {  
4     print(counter);  
5     counter++;  
6   } while (counter < 77);  
7 }  
8  
9
```

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75
76

Maka mendeklarasikan dan menginisialisasi counter sebelum perulangan. `Int counter = 33;` ini adalah value awal untuk variable counter, perulangan do-while akan terus berjalan dari angka 33 sampai 76 karena `while (counter < 77)` akan Membuat perulangan berhenti sebelum mencapai angka 77.

Praktikum 3

```
lib > testing.dart > for
1  for (int index = 10; index < 27; index++) {
2    print(index);
3  }
4

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS

testing.dart:1:1: Error: 'for' can't be used as an identifier because it's a keyword.
Try renaming this to be an identifier that isn't a keyword.
for (int index = 10; index < 27; index++) {
^^^
testing.dart:1:16: Error: Non-optional parameters can't have a default value.
Try removing the default value or making the parameter optional.
for (int index = 10; index < 27; index++) {
               ^
testing.dart:1:20: Error: Expected ')' before this.
for (int index = 10; index < 27; index++) {
               ^
PS D:\MobileProgramming\latihan\lib>
```

Error diatas terjadi karena kurangnya void main

```
lib > testing.dart > main
1  void main() {
2    for (int index = 10; index < 27; index++) {
3      print(index);
4    }
5  }

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

16
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PS D:\MobileProgramming\latihan\lib>
```

Terdapat error jika menjalankan Langkah 3 karena penggunaan break ada diluar perulangan.

```
lib > testing.dart > main
1 void main() {
2   if (Index == 21) break;
3   Else If (index > 1 || index < 7) continue;
4   print(index);
5 }
```

Ports

PROBLEMS 13 OUTPUT DEBUG CONSOLE TERMINAL PORTS

testing.dart:3:36: Error: A continue statement can't be used outside of a loop or switch statement.
Try removing the continue statement.
Else If (index > 1 || index < 7) continue;
^^^^^^

testing.dart:3:36: Error: A continue statement in a switch statement must have a label as a target.
Try adding a label associated with one of the case clauses to the continue statement.
Else If (index > 1 || index < 7) continue;
^^^^^^

testing.dart:4:9: Error: Undefined name 'index'.
print(index);
^^^^

PS D:\MobileProgramming\latihan\lib>

Dibawah ini merupakan contoh kode yang berhasil

```
lib > testing.dart > ...
1
2
3 Run | Debug | Profile
4 void main() {
5   for (int index = 10; index < 27; index++) {
6     if (index == 21) break;
7     print(index);
8   }
9 }
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\MobileProgramming\latihan\lib> dart run testing.dart

10
11
12
13
14
15
16
17
18
19
20
PS D:\MobileProgramming\latihan\lib>

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

```
lib > testing.dart > main
3 void main() {
4   String nama = "Ismi Agung Auli Saputro";
5   String nim = "230444040019";
6
7   for (int num = 2; num <= 201; num++) {
8     if (isPrime(num)) {
9       print("$num adalah bilangan prima - $nama ($nim)");
10    }
11  }
12 }
13
14
15 bool isPrime(int number) {
16   if (number < 2) return false;
17   for (int i = 2; i * i <= number; i++) {
18     if (number % i == 0) {
19       return false;
20     }
21   }
22   return true;
23 }
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
163 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
167 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
173 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
179 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
181 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
191 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
193 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
197 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
199 adalah bilangan prima - Ismi Agung Auli Saputro (230444040019)
PS D:\MobileProgramming\latihan\lib>
```

link commit repo GitHub

<https://github.com/agungsaputro794/Mobile-Programming.git>