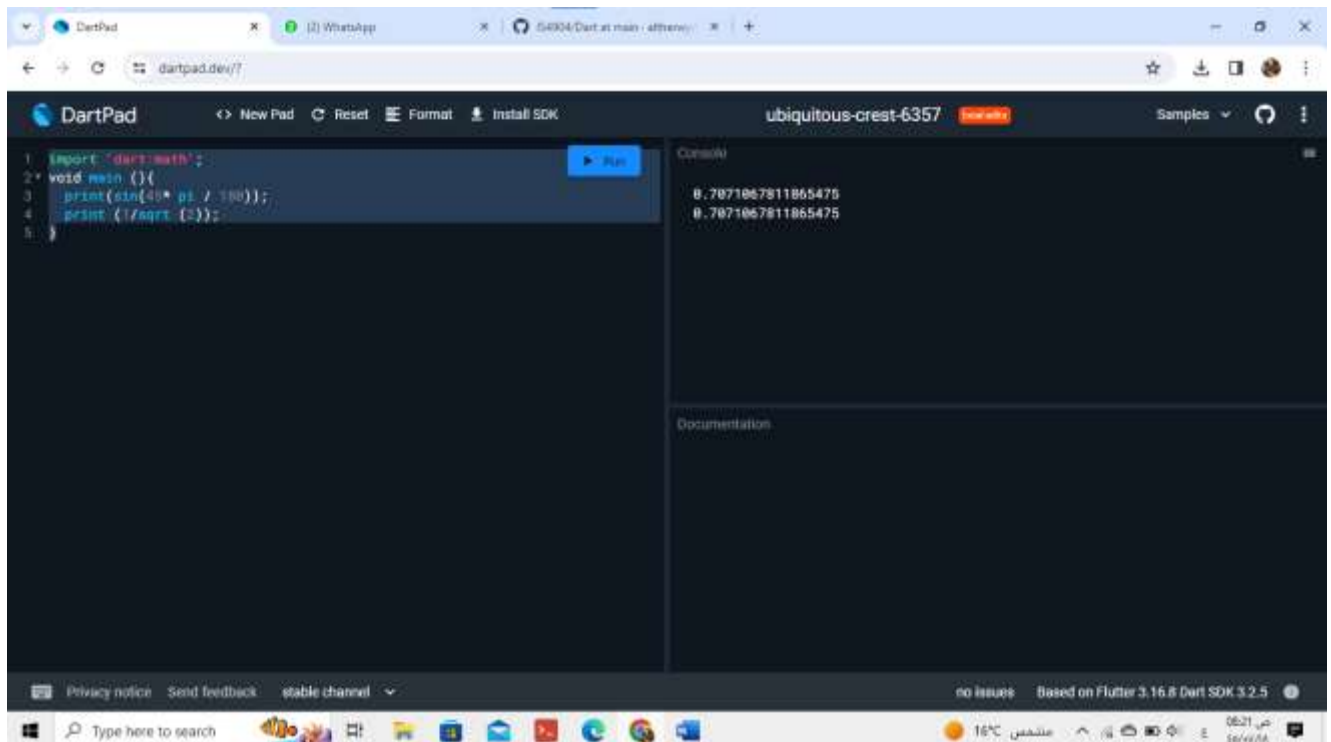


Exercise 1: Raghad faisal

In the example before you found the sine of 45° by first converting 45° to radians and then using the Dart sin function, which works in radians, to calculate the result. Now print the value of 1 over the square root of 2 in Dart. Confirm that it equals the sine of 45° .



The screenshot shows the DartPad web interface. The code editor on the left contains the following Dart code:

```
1 import 'dart:math';
2 void main () {
3   print(sin(45 * pi / 180));
4   print (1/sqrt(2));
5 }
```

The console on the right displays the output of the code:

```
0.7071067811865475
0.7071067811865475
```

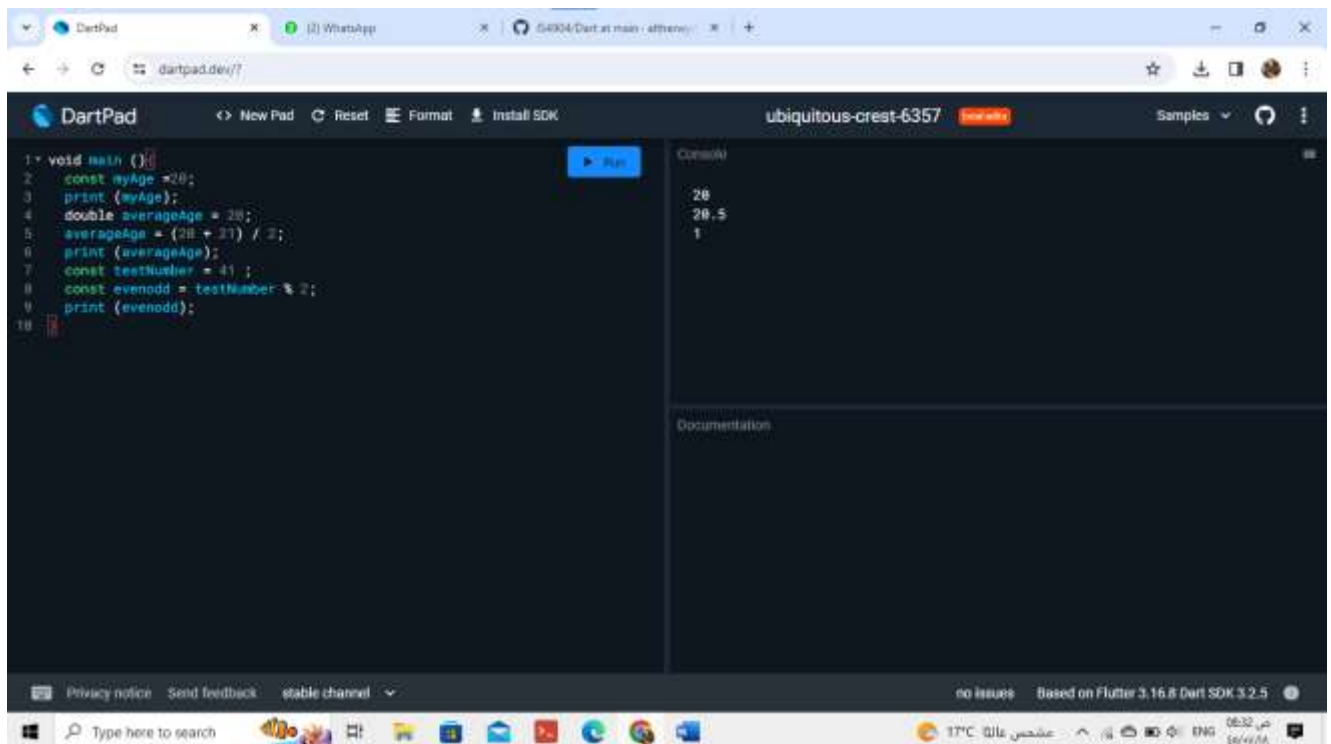
The bottom status bar indicates the application is based on Flutter 3.16.8 and Dart SDK 3.2.5.

This code Performs two mathematical calculations: // - Prints sine of 45 degrees in radians. // - Prints reciprocal of the square root of 2. // Needs modification for temperature conversions.

Exercise2

1. Declare a constant of type int called myAge and set it to your age.
2. Declare a variable of type double called averageAge. Initially, set the variable to your own age. Then, set it to the average of your age and your friend's age.
3. Create a constant called testNumber and initialize it with whatever integer you'd like. Next, create another constant called evenOdd and set it equal to testNumber

modulo 2. Now change testNumber to various numbers. What do you notice about evenOdd?



The screenshot shows the DartPad web interface in a browser. The code editor on the left contains the following Dart code:

```
1 void main () {
2   const myAge = 28;
3   print (myAge);
4   double averageAge = 28;
5   averageAge = (28 + 28) / 2;
6   print (averageAge);
7   const testNumber = 41;
8   const evenodd = testNumber % 2;
9   print (evenodd);
10 }
```

The console on the right shows the output of the code:

```
28
28.5
1
```

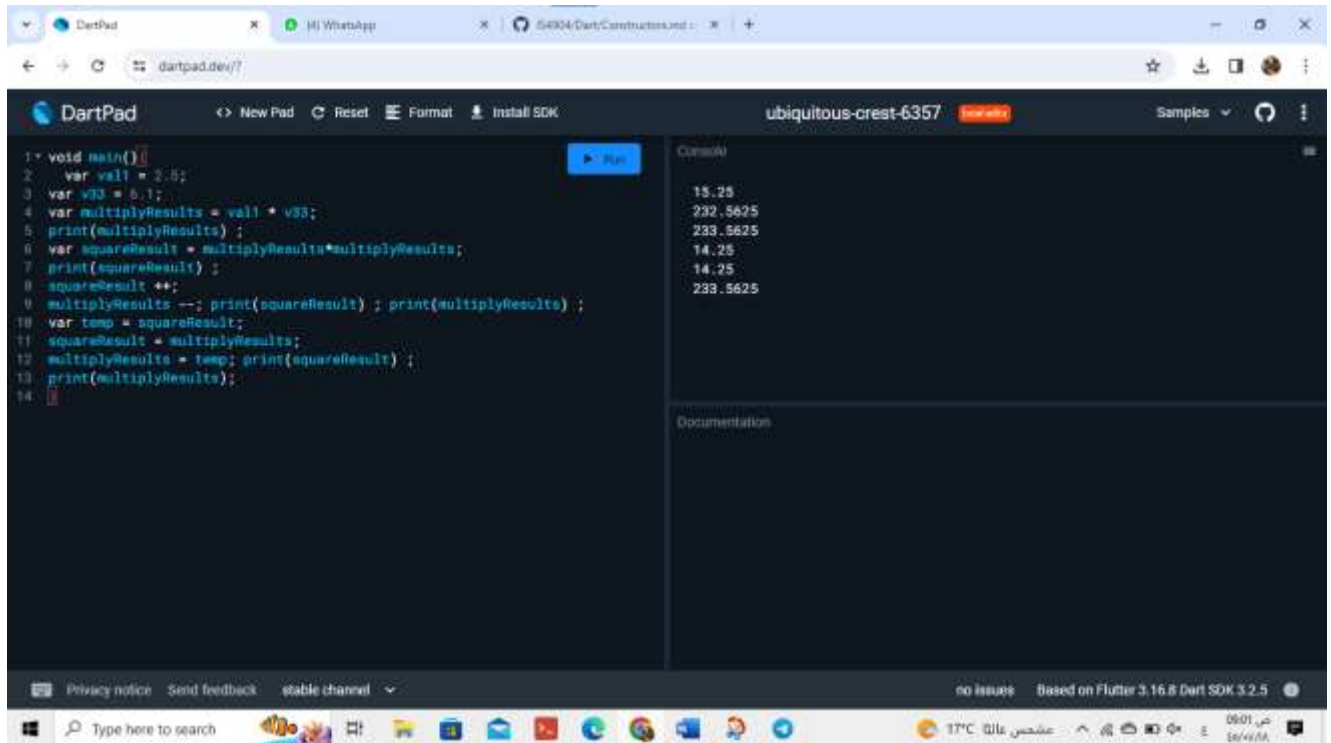
The bottom status bar indicates the code is based on Flutter 3.16.8 and Dart SDK 3.2.5.

- If the test number is odd, evenodd is 1 otherwise, it's 0.
- The evenodd function assigns 1 to odd test numbers and 0 to even ones.

Exercise 3:

Write a program to

1. Multiply two floating point variables and print the result. The values are 2.5 and 6.1
2. Calculate the square of the result from step 1 and print the result.
3. Increment the result from step 2 by 1 and decrement the result from step 1 by 1. Print both values.
4. Finally, swap the two values from step 3 and print the results. (e.g., put the first value in the second variable and vice versa)



The screenshot shows the DartPad web application in a browser. The code editor contains the following Dart code:

```
1 void main() {  
2   var val1 = 2.5;  
3   var val3 = 5.1;  
4   var multiplyResults = val1 * val3;  
5   print(multiplyResults);  
6   var squareResult = multiplyResults * multiplyResults;  
7   print(squareResult);  
8   squareResult ++;  
9   multiplyResults --; print(squareResult); print(multiplyResults);  
10  var temp = squareResult;  
11  squareResult = multiplyResults;  
12  multiplyResults = temp; print(squareResult);  
13  print(multiplyResults);  
14 }
```

The console output on the right shows the results of the code execution:

```
15.25  
232.5625  
233.5625  
14.25  
14.25  
233.5625
```

The bottom of the interface shows a status bar with "no issues" and "Based on Flutter 3.16.8 Dart SDK 3.2.5". The Windows taskbar is visible at the very bottom.

Performs calculations on two numbers: multiplies, squares, increments/decrements, and swaps values.