Practice Dart - Exercises

Language tour of Dart (link below) is an excellent place to start, and it's content should be more than enough to solve the following exercises

https://dart.dev/language

Running the code

1. Download the Dart SDK and install it on your machine.
2. Write your code in `.dart` extension files or clone the git repository
3. Run your code from the terminal

   or

   You can run the code on DartPad or Repl.it (choose Dart from the options).
   However, keep in mind that DartPad does not allow I/O operations, while Repl.it does

Note: Solutions are available at https://hackmd.io/@kuzmapetrovich/S1x90jWGP

Exercise 1

Create a program that asks the user to enter their name and their age. Print out a message that tells how many years they have to be 100 years old.

Exercise 2

Ask the user for a number. Depending on whether the number is even or odd, print out an appropriate message to the user.

Exercise 3

Take a list, say for example this one:

```
  a = [1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89]
```

and write a program that prints out all the elements of the list that are less than 5.

Exercise 4

Create a program that asks the user for a number and then prints out a list of all the divisors of that number.

If you don't know what a divisor is, it is a number that divides evenly into another number. For example, 13 is a divisor of 26 because 26 / 13 has no remainder.

Exercise 5

Take two lists, for example:

```
  a = [1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89]

  b = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]
```

and write a program that returns a list that contains only the elements that are common between them (without duplicates). Make sure your program works on two lists of different sizes.

Exercise 6

Ask the user for a string and print out whether this string is a palindrome or not.

A palindrome is a string that reads the same forwards and backwards.

Exercise 7

Let's say you are given a list saved in a variable:

```
a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100].
```

Write a Dart code that takes this list and makes a new list that has only the even elements of this list in it.

Exercise 8

Make a two-player Rock-Paper-Scissors game against computer.

Ask for player's input, compare them, print out a message to the winner.

Exercise 9

Generate a random number between 1 and 100. Ask the user to guess the number, then tell them whether they guessed too low, too high, or exactly right.

Keep track of how many guesses the user has taken, and when the game ends, print this out.

Exercise 10

Ask the user for a number and determine whether the number is prime or not.

Do it using a function