

Assignment 3

Name : Amjad Ali Khan

Sec : A batch 01

1. How to duplicate repeating items inside a Dart list?

Problem

Consider the code:

List<String> ballList = ["bilal","ali","owais","bilal","owais"] What can to be done in order to not repeat Ball () multiple times?

```
void main() {  
    List<String> ballList = ["bilal",  
    "ali", "owais", "bilal", "owais"];  
    print("Before using Function toSet \n  
$ballList \n");  
    print("After using Function of toSet  
");  
    print(ballList.toSet());  
}
```

Console

```
Before using Function toSet  
[bilal, ali, owais, bilal, owais]
```

```
After using Function of toSet  
{bilal, ali, owais}
```

2. How to get difference of lists in Flutter/Dart?

Problem

Consider you have two lists [1,2,3,4,5,6,7] and [3,5,6,7,9,10]. How would you get the difference as output? eg. [1, 2, 4]

```
void main() {  
    List lst1 = [1, 2, 3, 4, 5, 6, 7];  
    List lst2 = [3, 5, 6, 7, 9, 10];  
    lst1.removeWhere((e) = >  
lst2.contains(e));  
    print("List1 == $lst1 ");  
    print("List1 == $lst2 \n");  
    print("list1 difference list 2  
$lst1");  
}
```

Console

```
List1 == [1, 2, 4]  
List1 == [3, 5, 6, 7, 9, 10]  
  
list1 difference list 2 [1, 2, 4]
```

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

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

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

```
void main() {  
    List a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100];  
    a.retainWhere((e) = > e % 2 == 0);  
    print(a);  
  
}
```

Console

```
[4, 16, 36, 64, 100]
```

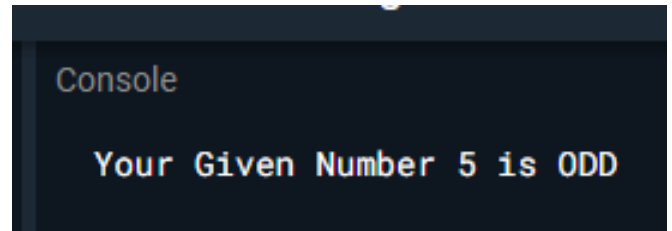
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4. Ask the user for a number and determine whether the number is prime or not.

```
void main() {
    var number = 5;
    if (number % 2 == 0) {
        print("Your Given Number $number is
EVEN ");
    }
    else if (number % 2 != 0) {
        print("Your Given Number $number is ODD ");
    }
}
```

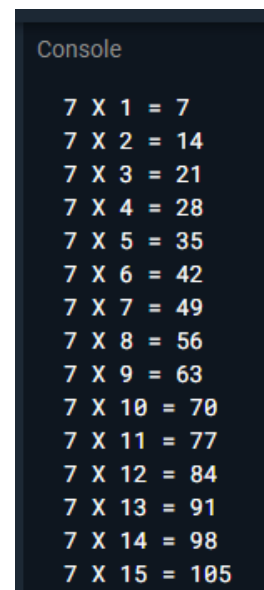


Console

Your Given Number 5 is ODD

5. Write a program to print multiplication table of 7 length 15.

```
void main() {
    for (var i = 1; i <= 15; i++) {
        print("7 X $i = ${7*i} ");
    }
}
```

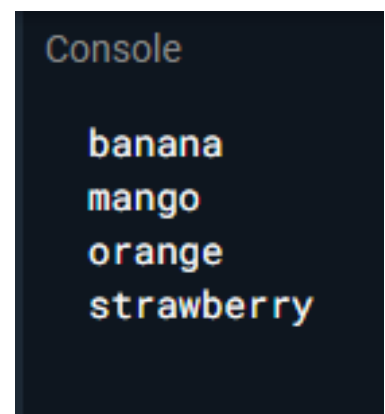


Console

7 X 1 = 7
7 X 2 = 14
7 X 3 = 21
7 X 4 = 28
7 X 5 = 35
7 X 6 = 42
7 X 7 = 49
7 X 8 = 56
7 X 9 = 63
7 X 10 = 70
7 X 11 = 77
7 X 12 = 84
7 X 13 = 91
7 X 14 = 98
7 X 15 = 105

6. Write a program to print items of the following array using for
fruits = ["apple", "banana", "mango", "orange", "strawberry"].

```
void main() {
    List fruits = ["apple", "banana", "mango", "orange",
"strawberry"];
    for (var i = 1; i < fruits.length; i++) {
        print(fruits[i]);
    }
}
```



Console

banana
mango
orange
strawberry

loop:

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7. Write a program to print multiples of 5 ranging 1 to 100.

```
void main() {  
    for (var i = 1; i <= 100; i++) {  
        if (i % 5 == 0) {  
            print(i);  
        }  
    }  
}
```

Console

```
5  
10  
15  
20  
25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90  
95  
100
```

8. The Temperature Converter: It's hot out! Let's make a converter based on the steps here.

- Store a Celsius temperature into a variable.
- Convert it to Fahrenheit & output "NNoC is NNoF".
- Now store a Fahrenheit temperature into a variable.
- Convert it to Celsius & output "NNoF is NNoC".

Console

```
The Temperature Converter  
Your Given Temperature in 35 C == 95 F  
Your Given Temperature in 120 F == 48.89 C
```

```
void main() {  
    num celsius = 35;  
    num fahrenheit = 120;  
    num calc_F = 0;  
    num calc_C = 0;  
    print("The Temperature Converter");  
    calc_F = (celsius * 9 / 5) + 32;  
    calc_C = (fahrenheit - 32) * 5 / 9;  
    print("Your Given Temperature in $celsius C == $calc_F F");  
    print("Your Given Temperature in $fahrenheit F == ${calc_C.toStringAsFixed(2)} C");  
}
```

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9. Write a program to create a calculator for +, -, *, / & % using if statements. Take the following input:

a. First number Second number

b. Operation (+, -, *, /, %)

Compute & show the calculated result to user.

```
void main() {
    int opt = 1;
    num add, sub, mul, div, rem;
    num num1 = 5;
    num num2 = 9;
    do {
        print("Enter your Choice \n");
        print("1. Addition      + ");
        print("2. Subtraction    - ");
        print("3. Multiplication  * ");
        print("4. Division        / ");
        print("5. Remainder       % ");
        print("0. Exit Calculator ");

        if (opt != 0) {
            print("Enter Your 1st number : $num1");
            print("Enter Your 2nd number : $num2");
        }
        if (opt == 1) {
            add = num1 + num2;
            print("Result = $add");
        }
        if (opt == 2) {
            sub = num1 - num2;
            print("Result = $sub");
        }
        if (opt == 3) {
            mul = num1 * num2;
            print("Result = $mul");
        }
        if (opt == 4) {
            div = num1 / num2;
            print("Result = $div");
        }
        if (opt == 5) {
            rem = num1 % num2;
            print("Result = $rem");
        }
    } while (opt != 1);
}
```

Console

Enter your Choice

```
1. Addition      +
2. Subtraction    -
3. Multiplication *
4. Division        /
5. Remainder       %
0. Exit Calculator
```

Enter Your 1st number : 5

Enter Your 2nd number : 9

Result = 14

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10. Write a program that takes a character (I. e. string of length 1) and returns true if it is a vowel, false otherwise.

```
void main() {  
  
    List vowels = ['A', 'E', 'I', 'O', 'U', 'a', 'e', 'i', 'o', 'u'];  
    var inpt = "A";  
    bool check = false;  
    for (var i = 0; i < vowels.length; i++) {  
        if (inpt == vowels[i]) {  
            check = true;  
        }  
    }  
    print("The Character you Entered $inpt");  
    print("Is Character Vowel :: $check");  
}
```

Console

```
The Character you Entered A  
Is Character Vowel :: true
```