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Assignment 2

(1)What are the various types of operators in dart? Explain with Examples.

\+ Addition Use to add two operands

Example

```
var a =8;
var c = 6;
var d= a+c;
print (d);
```

– Subtraction Use to subtract two operands

Example

```
var f =28;
var g = 63;
var e= f+g;
print (e);
```

* Multiply Use to multiply two operands

Example

```
var f =28;
var g = 63;
var h= f*g;
print (h);
```

/ Division Use to divide two operands

Example

```
var f =28;
var g = 63;
var k= f/g;
print (k);
```

~/	Division	Use two divide two operands but give output in integer

```
var f =28;
var g = 63;
var j= f~/g;
print (j);
```

%	Modulus	Use to give remainder of two operands
-expr	Unary Minus	It is Use to reverse the sign of the expression

(2)What will be the output in variables a, b & result after execution of the following script:

a. var a = 2, b = 1;

b. var result = --a - --b + ++b + b--;

Explain the output at each stage:

ANS:

c. --a;(pre decrement 2-1)

d. --a - --b; (1-0)=>1

e. --a - --b + ++b; (1-0+1) =>2

var result = --a - --b + ++b + b--; (1-0+1+1) =>3

OUTPUT=3;

3) Cost of one movie ticket is 600 PKR. Write a script to store ticket price in a variable & calculate the cost of buying 5 tickets to a movie.

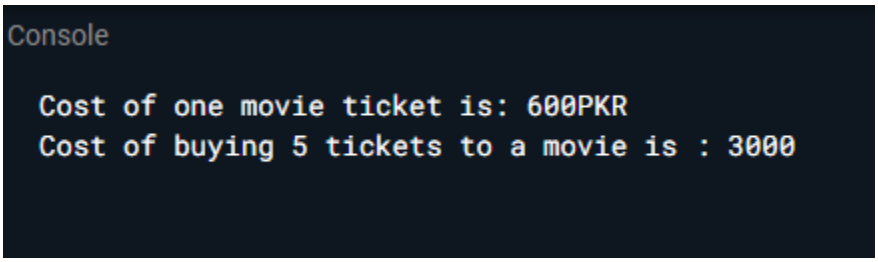
CODE:

```
var ticket_cost= 600;


var cost_of_five_tickets=ticket_cost*5;


print("Cost of one movie ticket is: ${ticket_cost}PKR");
print("Cost of buying 5 tickets to a movie is : ${cost_of_five_tickets}");
```

OUTPUT:



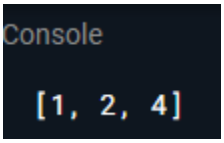
(4) How to get difference of lists in Dart? Problem: Consider you have two lists [1,2,3,4,5,6,7] and [3,5,6,7,9,10]. How would you get the difference as output? E.g. [1, 2, 4].

CODE:

```
var list1= [1,2,3,4,5,6,7] ;
var list2= [3,5,6,7,9,10];
var list3= list1.toSet().difference(list2.toSet()).toList();


print(list3);
```

OUTPUT:



(5)What is a difference between these operators "?? And?"

Ans:

"??" > null-aware operator is ??, which returns the expression on its left unless that expression's value is null, in which case it evaluates and returns the expression on its right:

"?" >To guard access to a property or method of an object that might be null

6)What are the data types supported in Dart? Explain with Examples.

Ans:

Number

int, double, num > Numbers in Dart are used to represent numeric literals

```
double units=3.30;
int id = 2;
double temperature = -16.5;
num age = 19;
num temperature = 18.5;
```

Strings

represent a sequence of characters

```
String name = "obaid";
String email = "11312312@afasfsfa";
```

Booleans

bool >It represents Boolean values true and false

```
String str = 'Hello ';
 String str1 = 'World';

 bool val = (str==str1);
 print (val);
```

Lists

List > It is an ordered group of objects

```
var list1 =[7,14,21,28,35,42,49,56,63,70];
var list2 =["7x1","7x2","7x3","7x4","7x5","7x6","7x7","7x8","7x9","7x10"];
print(list1); print(list2);
```

Maps

Map >It represents a set of values as key-value pairs

```
  Map l = new Map();
 l['First'] = 'obaid';
 l['Second'] = 'ullah';
 l['Third'] = 'hashmi';
 print(l);
```

(7)Solve: a. First declare an array and assign the numbers of the table of 7. b. Second declare another array and assign the numbers 1-10 c. Now write down the table of 7 using map.fromiterables method.

```
var list1 =[7,14,21,28,35,42,49,56,63,70];
 var list2 =["7x1","7x2","7x3","7x4","7x5","7x6","7x7","7x8","7x9","7x10"];
  var table= Map.fromIterables(list2,list1);
  print (table);
```

OUTPUT:

```
Console
  {7x1: 7, 7x2: 14, 7x3: 21, 7x4: 28, 7x5: 35, 7x6: 42, 7x7: 49, 7x8: 56, 7x9: 63, 7x10: 70}
```

(8) Write a program that a. Store correct password in a JS variable. b. Asks user to enter his/her password c. Validate the two passwords: d. Check if user has entered password. If not, then give message "Please enter your password" e. Check if both passwords are same. If they are same, show message "Correct! The password you f. entered matches the original password". Show "Incorrect password" otherwise.

CODE:

```dart
import 'dart:io';

void main() {
  var JS = "Admin";
  print("Enter your Password?");

  String? p = stdin.readLineSync();

  if (JS == p) {
    "Password is Correct";
  } else {
    "Incorrect Password";
  }

  print("$p");
}
```

(9) Write a program to store 3 student names in an array. Take another array to store score of these three students. Assume that total marks are 500 for each student, display the scores & percentages of students.

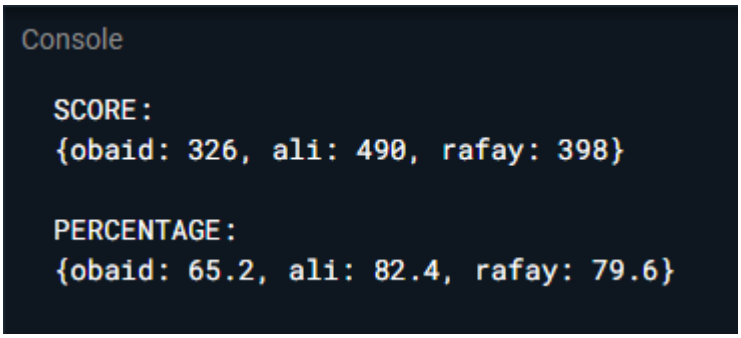
CODE:

```
var name =['obaid','ali','rafay'];
  var score=[326,490,398];


  print("SCORE:");
  var m= Map.fromIterables(name,score);
  print (m);


  print("\nPERCENTAGE:");
  var per = [(326*100)/500,(412*100)/500,(398*100)/500];
  var m1= Map.fromIterables(name,per);
  print (m1);
```

OUTPUT



(10) Declare 5 legal & 5 illegal variable names.

(11) Write a program to replace the “Hyder” to “Islam” in the word “Hyderabad” and display the result.

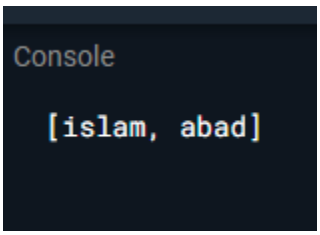
CODE:

```
var list1 = ['Hyder','abad'];


list1 .replaceRange(0,1,['islam']);


print (list1);
```

OUTPUT:



(12) Write a program to generate your K-Electric bill 7. All the amounts should be rounded off to 2 decimal places. Display the following fields: a. Customer Name b. Current Month c. Number of units d. Charges per unit e. Net Amount Payable (within Due Date) f. Late Payment Surcharge g. Gross Amount Payable (after Due Date) Where, Net Amount Payable (within Due Date) = Number of units * Charges per unit & Gross Amount Payable (after Due Date) = Net Amount + Late Payment Surcharge

CODE:

```
var cname="Obaid";
var currentmonth="September";
double nunits=330;
```

```
double cperunit=23;
double  netamountpayable= nunits * cperunit ;
double latepaymentsurcharge=500 ;
double  grossamountpayable=netamountpayable+latepaymentsurcharge;


print("Customer Name ${cname}");
print("Current Month ${currentmonth}");
print("Number of units ${nunits}");
print("Charges per unit ${cperunit}");
print("Net Amount Payable (within Due Date) ${netamountpayable}");
print("Late Payment Surcharge ${latepaymentsurcharge}");
print("Gross Amount Payable (after Due Date) ${grossamountpayable}");
```

OUTPUT