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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.
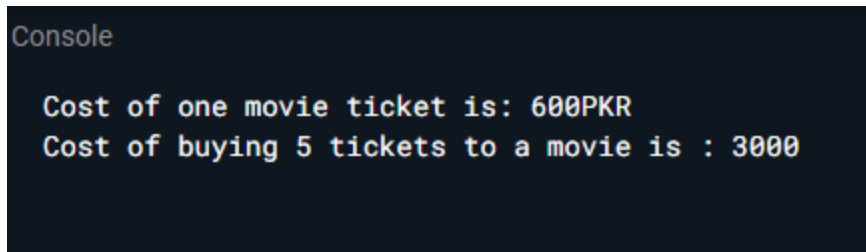
CODE:

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:

```
Console

 Cost of one movie ticket is: 600PKR
 Cost of buying 5 tickets to a movie is : 3000
```


(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:

```
Console

[1, 2, 4]
```

(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

```
Console

  SCORE:
  {obaid: 326, ali: 490, rafay: 398}

  PERCENTAGE:
  {obaid: 65.2, ali: 82.4, rafay: 79.6}
```

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

Legal variable:

String first_name="Obaid " ;

String last_Name="hashmi " ;

int age1=20 ;

double _percentage=78.9 ;

var rollNo = "12345";

 var a$ = "uafiuf";

illegal variable:

String first-name= "Obaid" ;

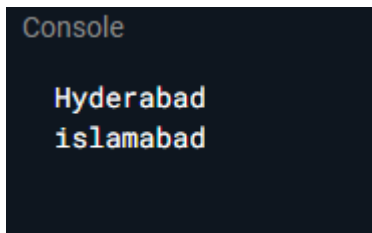String last name= "hashmi" ;

int 1age =20 ;

double !percentage=78.9 ;

var 997 = "uafiuf";

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

CODE:

```
var l1 = 'Hyderabad';


var a = l1.replaceRange(0,5,'islam');


print (l1);
print (a);
```

OUTPUT:

```
Console

 Hyderabad
 islamabad
```

(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

```
Console

 Customer Name Obaid
 Current Month September
 Number of units 330
 Charges per unit 23
 Net Amount Payable (within Due Date) 7590
 Late Payment Surcharge 500
 Gross Amount Payable (after Due Date) 8090
```