**ASSIGNMENT 3**

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

ANS: **TYPES OF OPERATORS:**

Arithmetic operator. (+,-,/,\*)

EXAMPLE:

void main()

{

int a = 2;

int b = 3;

var c = a + b;

print("Sum of a and b is $c");

var d = a - b;

print("The difference between a and b is $d");

var e = -d;

print("The negation of difference between a and b is $e");

var f = a \* b;

print("The product of a and b is $f");

var g = b / a;

print("The quotient of a and b is $g");

var h = b ~ / a;

print("The quotient of a and b is $h");

var i = b % a;

print("The remainder of a and b is $i");

}

2. Logical operator. (&&,||,!)

Example:

void main()

{

int a = 5;

int b = 7;

bool c = a > 10 && b < 10;

print(c);

bool d = a > 10 || b < 10;

print(d);

bool e = !(a > 10);

print(e);

}

3. Equality & relational operator. (>,<,<=,>=,==,!=)

Example:

void main()

{

int a = 2;

int b = 3;

var c = a > b;

print("a is greater than b is $c");

var d = a < b;

print("a is smaller than b is $d");

var e = a >= b;

print("a is greater than b is $e");

var f = a <= b;

print("a is smaller than b is $f");

var g = b == a;

print("a and b are equal is $g");

var h = b != a;

print("a and b are not equal is $h");

}

(**2)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**.

ANS:

void main() {

var movie\_ticket = 600 ;

print("cost of 1 tickets = $movie\_ticket");

print("cost of buying 5 tickets = ${5\*movie\_ticket}");

}

**(3) 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].**

ANS:

void main() {

List<int> a = [1,2,3,4,5,6,7];

List<int> b = [3,5,6,7,9,10];

print(a.where((e) => !b.contains(e)).toList());

}

**(4)What is a difference between these operators “?? And?”**

**ANS:** Conditional Expressions

Dart has two operators that let you evaluate expressions that might otherwise require ifelse statements

condition ? expr1 : expr2

If condition is true, then the expression evaluates expr1 (and returns its value); otherwise, it evaluates and returns the value of expr2.

expr1 ?? expr2

If expr1 is non-null, returns its value; otherwise, evaluates and returns the value of expr2

Example:

void main() {

var a = null;

var b = 12;

var res = a ?? b;

print(res);

}

**(5)What are the data types supported in Dart? Explain with Examples.**

Ans**:DATA TYPES:**

1.Number(INT, DOUBLE, NUM)

int age = 18

double temperature = 16.5

num age = 19

num temperature = 18.5

2.string

String name = “mustafa”

String name = “airport karachi "

3.Booleans: (true/false)

**(6)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.**

**ANS:**

void main() {

var multiple\_of\_seven = [7,14,21,28,25,42,49,56,63,70];

var number= [1,2,3,4,5,6,7,8,9,10];

var data = Map.fromIterables(number, multiple\_of\_seven);

print(data);

}

**(7) 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.**

**ANS:**

void main() {

var correct\_pass = "abc123456" ;

var enter\_pass="abc";

if(enter\_pass==""){

print("Please enter your password");

}

else if(enter\_pass==correct\_pass){

print("Correct! Thankyou");

}

else{

print("Incorrect password");

}

**}**

**(8) 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 sof students.**

**ANS:**

void main() {

var students\_name = ["Ali","Furqan" ,"Bilal"];

var student\_score = [400,340,490];

print("Student ---------- Score ---------- Percentage");

print("${students\_name[0]} --------------- ${student\_score[0]} ---------- ${student\_score[0]/500\*100}");

print("${students\_name[1]} ------------ ${student\_score[1]} ---------- ${student\_score[1]/500\*100}");

print("${students\_name[2]} ------------ ${student\_score[2]} ---------- ${student\_score[2]/500\*100}");

}

(**9) Declare 5 legal & 5 illegal variable names.**

ANS: void main() {

// 5 legal & 5 illegal variable names

// 5 legal variable names

var legal1= "abc";

var legal2= "a23c";

var legal3= "ab23";

var legal4= "abc23";

var legal5= "ab2323c";

// 5 illegal variable names

var print = "abc";

var num= "a23c";

var String= "ab23";

var 8\_sdf= "abc23";

var if= "ab2323c";

print(print);

}

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

**ANS:**

void main() {

String str = 'Hyderabad';

print ('First the value of varible is $str');

//replace subString

// Replacing hyder by islam

String result = str.replaceAll('Hyder', 'Islam');

print ('Afer replace by using relpaceall method $result');

print(result);

}

**(11) 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**

**ANS:** **void main() {**

//Electricity Bill

var customer\_Name= "Syed Muhammad Shahzeb Naqvi";

var current\_Month = "September";

var number\_Of\_Units = 300;

var charges\_Per\_Unit = 20;

var late\_Payment\_Surcharge= 500;

var net\_Amount\_Payable= number\_Of\_Units \* charges\_Per\_Unit;

var gross\_Amount\_Payable = net\_Amount\_Payable + late\_Payment\_Surcharge ;

print("Custommer Name = ${customer\_Name}");

print("Current Month = ${current\_Month}");

print("Number of Unit = ${number\_Of\_Units}");

print("Net Amount Payable Within Due date till ${current\_Month} = ${net\_Amount\_Payable}");

print("Gross Amount Payable Within Due date after ${current\_Month} = ${gross\_Amount\_Payable}");

**}**

**(12) Write a program that shows the message “First fifteen days of the month” if the date is less than 16th of the month else shows “Last days of the month”.**

**ANS:** **import 'package:intl/intl.dart';**

void main() {

var now = new DateTime.now();

var formatter = new DateFormat('dd');

String formattedDate = formatter.format(now);

print("The current Date is $formattedDate");

if(int.parse(formattedDate)<=15){

print("First fifteen days of the month");

}

else{

print("Last days of the month");

}

**}**

**(13) Find 5 new methods of List and String**.

ANS: **list methods**:

updating list

sort method

isEmpty & isNotEmpty Method

Reversed Method

Add Methods

Remove Methods