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

Arithmetic operator which include addition, Subtraction, Multiplication, division, modulus ( +,-, \*, /, % )

A screenshot of a computer

Description automatically generated with medium confidencevoid main() {

num a = 5;

num b = 9;

//addition

num add = a + b;

//subtraction

num sub = a - b;

//multiplication

num mul = a \* b;

//division

num div = a / b;

//modulus

num mod = a % b;

print("number a = $a \nnumber b = $b ");

print("Addition = $add");

print("subtraction = $sub");

print("multiplication = $mul");

print("division = $div");

print("modulus = $mod");

}

* + **Relational Operators**

**Includes**

Greater than  **>**

Less than **<**

Greater than or equal to **>=**

less than equal to **<=**

Equal to **==**

Not Equal to **!=**

Usually these Relational operators are used to compare 2 values

Graphical user interface, text

Description automatically generated

void main() {

num a = 5;

num b = 9;

print("number a = $a \nnumber b = $b ");

if (a > b) {

print("a is greater than b ");

}

if (a < b) {

print("a is less than b ");

}

if (a >= b) {

print("a is greater than or equal to b ");

}

if (a <= b) {

print("a is less than or equal to b");

}

if (a == b) {

print("a equals to b");

}

if (a != b) {

print("a not equal to b");

}

}

* Text

  Description automatically generated **Logical operators**

Includes

&& : and operator

| | : or operator

! : not operator

void main() {

num a = 5;

num b = 9;

print("number a = $a \nnumber b = $b ");

if (a > b&& a != b) {

print("a is greater than b AND a is not equal to b ");

}

if (a < b || a == b) {

print("a is less than b OR a equals to b ");

}

}

1. What will be the output in variables a, b & result after execution of the following script:
   1. var a = 2, b = 1;
   2. var result = --a - --b + ++b + b--; Explain the output at each stage:
   3. --a; variable a value decremented by 1 , 2 becomes 1
   4. --a - --b; a becomes 1 , and b become 0, so subtraction result = 1
   5. --a - --b + ++b; +1 increment in b and addition to previous step result = 2
   6. --a - --b + ++b + b-- ; b value 1 is added in previous result 2 which becomes 3 ;

1. 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.

void main() {

num ticket\_price = 600;

print(" Cost of one movie ticket is == $ticket\_price PKR \n");

print(" Cost for Five movie tickets will be == ${ticket\_price\*5} PKR ");

}

Text

Description automatically generated

1. 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].



void main() {

A picture containing text, black, screen

Description automatically generated 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 ");

}

1. What is a difference between these operators “?? And?”

Both are Conditional Operators

**.** **?**  It is a simple version of if-else statement. If the condition is true than expersion1 is executed else expersion2 is executed

**. ??** If expersion1 is non-null returns its value else returns expression2 value.

1. What are the data types supported in Dart? Explain with Examples.
2. Solve:
   1. First declare an array and assign the numbers of the table of 7.
   2. Second declare another array and assign the numbers 1-10
   3. Now write down the table of 7 using map.fromiterables method.
3. Write a program that
   1. Store correct password in a JS variable.
   2. Asks user to enter his/her password
   3. Validate the two passwords:
   4. Check if user has entered password. If not, then give message “Please enter your password”
   5. Check if both passwords are same. If they are same, show message

“Correct! The password you

* 1. entered matches the original password”. Show “Incorrect password” otherwise.

1. 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.
2. Declare 5 legal & 5 illegal variable names.
3. Write a program to replace the “Hyder” to “Islam” in the word “Hyderabad” and display the result.
4. 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:
   * 1. Customer Name
     2. Current Month
     3. Number of units
     4. Charges per unit
     5. Net Amount Payable (within Due Date)



* + 1. Late Payment Surcharge
    2. 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 OR

1. 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”.

Best of Luck!