Dart Assignment 1

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Q.1: Create two integer variables length and breadth and assign values then check if they are square values or rectangle values.  
ie: if both values are equal then it's square otherwise rectangle.

CODE:

**void main(){**

**int Length = 5;**

**int Breadth = 5;**

**if(Length == Breadth){**

**print("Its a Square");**

**}else{**

**print("Its a Rectangle");**

**}**

**}**

Q.2: Take two variables and store age then using if/else condition to determine oldest and youngest among them.

CODE:

**void main(){**

**var aliAge = 4;**

**var rehmanAge = 20;**

**if(aliAge > rehmanAge && rehmanAge < aliAge){**

**print("Ali is ${aliAge} and Rehamn is ${rehmanAge} so Ali is the Oldest and Rehman is youngest");**

**}else{**

**print("Rehamn is ${rehmanAge} and Ali is ${aliAge} so Rehman is the Oldest And Ali is the youngest");**

**}**

**}**

Q.3: A student will not be allowed to sit in exam if his/her attendance is less than 75%. Create integer variables and assign value:  
Number of classes held = 16,  
Number of classes attended = 10,  
and print percentage of class attended.  
Is student is allowed to sit in exam or not?

CODE:

**void main(){**

**int classesHELD = 16;**

**int classesATTENDED = 10;**

**double percent = (classesATTENDED/classesHELD)\*100;**

**print (percent);**

**String StudName = "ASRA AIJAZ";**

**if (percent < 75 ){**

**print("Sorry ${StudName} your attendance is less than 75% you cannot sit in the exam");**

**}else{**

**print("You are allowed to sit in the exam");**

**}**

Q.4: Create integer variable assign any year to it and check if a year is leap year or not.  
If a year is divisible by 4 then it is leap year but if the year is century year like 2000, 1900, 2100 then it must be divisible by 400.  
i.e: Use % ( modulus ) operator.

CODE:

**void main(){**

**int year = 2029;**

**if (year%100==0){**

**print("A Century Year");**

**if (year%400==0 && year%4==0){**

**print("${year} is a leap year");**

**}else{**

**print("Century year But not Leap year");**

**}**

**}else if (year%100 != 0){**

**print("Not a Century year");**

**if(year%4==0){**

**print("${year} is a leap year");**

**}else{**

**print("Not Century year and Not leap Year");**

**}**

**}else{**

**print("Not a leap year");**

**}**

**}**

Q.6: Write a program to check whether an alphabet is a vowel or consonant.

CODE:

**void main(){**

**String alphabet = "f";**

**String alpha= alphabet.toUpperCase();**

**if (alpha == "A" || alpha == "E" || alpha =="I" || alpha=="O" || alpha =="U"){**

**print("Its a Vowel");**

**}else{**

**print("Not a Vowel");**

**}**

**}**

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Q.5  Write a program to read temperature in centigrade and display a suitable message according to temperature:  
You have num variable temperature = 42;  
Now print the message according to temperature:  
temp < 0 then Freezing weather  
temp 0-10 then Very Cold weather  
temp 10-20 then Cold weather  
temp 20-30 then Normal in Temp  
temp 30-40 then Its Hot  
temp >=40 then Its Very Hot

**void main(){**

**String temp = "500F";**

**bool tempreature = temp.contains("F");**

**if (tempreature == true){**

**int numb = int.parse(temp.split("F")[0]);**

**print("In Fahrenheit ${numb}");**

**num Centigrade = (numb - 32)\*(5/9);**

**print("In Centigrade ${Centigrade}");**

**if (Centigrade < 0){**

**print("Freezing weather");**

**}else if (Centigrade>=0 && Centigrade<=0){**

**print(" Very Cold Wether");**

**}else if(Centigrade>=20 && Centigrade<=30){**

**print("Cold Wether");**

**}else if(Centigrade>=30 && Centigrade<=40){**

**print("Its Hot");**

**}else{**

**print("Very Hot");**

**}**

**}**

**}**

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Q.7: Write a program to calculate and print the Electricity bill of a given customer. Create variable for customer id, name, unit consumed by the user, bill\_amount and print the total amount the customer needs to pay. The charge are as follow :  
  
Unit    Charge/unit  
upto 199    @1.20  
200 and above but less than 400    @1.50  
400 and above but less than 600    @1.80  
600 and above             @2.00;  
  
Test Data :  
id: 1001  
name: James  
units: 800  
Expected Output :  
Customer IDNO :1001  
Customer Name :James  
unit Consumed :800  
Amount Charges @Rs. 2.00 per unit : 1600.00  
Net Bill Amount : 1600.00

CODE:

**void main(){**

**int CustomerID = 1100;**

**String CustomerName = "ASRA";**

**double unitConsumed = 600;**

**print("Customer ID : ${CustomerID}");**

**print("Customer Name : ${CustomerName}");**

**print("Units : $unitConsumed");**

**if (unitConsumed <= 199){**

**print("Amount Charges @Rs. 1.20 per unit : ${unitConsumed \* 1.20}");**

**print("Net Bill Amount : ${unitConsumed \* 1.20} ");**

**}else if(unitConsumed>=200 && unitConsumed < 400){**

**print("Amount Charges @Rs. 1.20 per unit : ${unitConsumed \* 1.50}");**

**print("Net Bill Amount : ${unitConsumed \* 1.50} ");**

**}else if(unitConsumed>=400 && unitConsumed < 600){**

**print("Amount Charges @Rs. 1.20 per unit : ${unitConsumed \* 1.80}");**

**print("Net Bill Amount : ${unitConsumed \* 1.80} ");**

**}else{**

**print("Amount Charges @Rs. 1.20 per unit : ${unitConsumed \* 2.00}");**

**print("Net Bill Amount : ${unitConsumed \* 2.00} ");**

**}**

**}**

Q8: Create a marksheet using operators of at least 5 subjects and output should have Student Name, Student Roll Number, Class, Percentage, Grade Obtained etc.  
i.e: Percentage should be rounded upto 2 decimal places only.

CODE:

**void main(){**

**String Name = "Asra Aijaz";**

**int Rollno =123 ;**

**String Clas =" Bachelors" ;**

**num Calculus = 87;**

**num Programming = 98.4;**

**num English =67;**

**num DataBase =76.5;**

**num Os = 90;**

**int ObtainedMarks = 500;**

**num TotalMarks = Calculus+Programming+English+DataBase+Os;**

**num Percent1 = (TotalMarks/ObtainedMarks)\*100;**

**// print(Percent.runtimeType);**

**String Percent2 = Percent1.toStringAsFixed(2);**

**// print(Percentage);**

**num Percentage = num.parse(Percent2);**

**print(Percentage.runtimeType);**

**//\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**print("Name : ${Name}");**

**print("Roll No : ${Rollno}");**

**print("Class : ${Clas}");**

**if(Percentage >=80){**

**print("Congratulations ${Name}! You are PASS, Your percentage is ${Percentage} and Grade is A+");**

**}**

**else if(Percentage >= 70){**

**print("Congratulations ${Name}! You are PASS, Your percentage is ${Percentage} and Grade is A");**

**}**

**else if (Percentage >= 60){**

**print("Congratulations ${Name}! You are PASS, Your percentage is ${Percentage} and Grade is B");**

**}**

**else if (Percentage >= 50){**

**print("Congratulations ${Name}! You are PASS, Your percentage is ${Percentage} and Grade is C");**

**}else{**

**print("Sorry ${Name}! You are FAIL");**

**}**

**}**

Q9: Check if the number is even or odd, If number is even then check if this is divisible by 5 or not & if number is odd then check if this is divisible by 7 or not.

CODE:

void main(){

int numb1 = 45;

if (numb1%2==0){

if (numb1%5==0){

print("${numb1} is EVEN And Divisible by 5");

}else{

print("${numb1} is EVEN But NOT Divisible by 5");

}

}else if(numb1%2 != 0){

if(numb1%7==0){

print("${numb1} is ODD And Divisible by 7");

}else{

print("${numb1} is ODD but NOT Divisible by 7");

}

}

}

Q10: Write a program that takes three numbers from the user and prints the greatest number & lowest number.

CODE:

void main(){

int numb1= 300;

int numb2 =2000;

int numb3 = 40;

if (numb1 > numb2){

if(numb1 > numb3){

print("${numb1} is the greatest");

}else{

print("${numb3} is the greatest");

}

}else if(numb2>numb1){

if(numb2> numb3){

print("${numb2} is the greatest");

}else{

print("${numb2} is the greatest");

}

}else{

print("${numb3} is the greatest");

}

}

Q11: Write a program to calculate root of any number.  
i.e: **√y = y½**

**CODE:**

import 'dart:math';

void main(){

num num1 = 3;

double sqrt = 1/2;

num calSqrt = pow(num1,sqrt);

print(calSqrt);

}

Q12: Write a program to convert Celsius  to Fahrenheit   .  
i.e: Temperature in degrees Fahrenheit (°F) = (Temperature in degrees Celsius (°C) \* 9/5) + 32

CODE:

**void main(){**

**String temp = "500F";**

**bool tempreature = temp.contains("F");**

**if (tempreature == true){**

**int numb = int.parse(temp.split("F")[0]);**

**print("In Fahrenheit ${numb} F");**

**num Centigrade = (numb - 32)\*(5/9);**

**print("In Centigrade ${Centigrade} C" );**

**}**

**}**