**1st Assignment of Flutter Course**

* Length and breadth of a rectangle are 5 and 7 respectively. Write a program to calculate the area of the rectangle.  
  Formula (area = length \* breadth)
* void main(){
* num length = 5;
* num breadth = 7;
* num area = 0;
* area = length\*breadth;
* print("area:$area")
* }

* Create a integer variable num = 7, Add 8 to the number and then divide it by 3. Now, the modulus of that number is taken with 5 and then multiply the resultant value by 5, store result in variable i. Display the final result.
* void main(){
* int digit = 5;
* num result = 0;
* num i = 0;
* result = (digit + 8)/3;
* result = result % 5;
* result = result \* 5;
* i = result;
* print("i:$i")
* }

* Write a program create two integer variables 'a' and 'b' and assign them any number and then check if both the conditions 'a < 50' and 'a < b' are true. Display the result, now check if at-least one of the conditions 'a < 50' and 'a < b' is true.

void main(){

int a = 30;

int b = 40;

if(a < 50 && a < b){

print("AND Condition:True");

}

else if(a < 50 || a < b){

print("OR Condition:True");

}

}

* If the marks of Robert in three subjects are 78,45 and 62 respectively (each out of 100 ), write a program to calculate his total marks and percentage marks. Print his name, marks of all three subjects, total marks and percentage.

void main(){

String name ="Ali";

int sci = 78;

int urdu = 45;

int english = 62;

int totalMarks = 300;

int obtMarks = 0;

num percentage = 0;

obtMarks = sci + urdu + english;

percentage = (obtMarks/totalMarks) \* 100;

print("Name: $name \n Obtained\_Marks: $obtMarks \n Total\_Marks: $totalMarks \n Percentage: $percentage");

}

**2nd Assignment of Flutter Course**

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

void main() {

  int length = 50;

  int breadth = 50;

 if(length == breadth){

   print("Shape: Square");

 }

  else{

    print("Shape: Rectangle");

  }

}

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

void main() {

  int age1 = 25;

  int age2 = 30;

  if (age1 > age2) {

    print('Person 1 is oldest with age: $age1');

    print('Person 2 is  youngest with age: $age2');

  }

  else if (age1 < age2) {

    print('Person 2 is the oldest with age: $age2');

    print('Person 1 is the youngest with age: $age1');

  }

  else {

    print('Both persons have the same age: $age1');

  }

}

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?

void main() {

  int attendClass = 10;

  int heldClass = 16;

  num reqPercentage = 75;

  num percentage = 0;

  percentage = (attendClass / heldClass) \* 100;

  print('percentage : $percentage \n');

   if (percentage < reqPercentage){

    print('Student Not Allowded');

   }

  else{

    print('Student Allowded');

  }

}

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.

void main() {

  int year = 2000;

  if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {

    print('$year is a leap year.');

  }

  else {

    print('$year is not a leap year.');

  }

}

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() {

  int temperature = 42;

  if (temperature < 0) {

    print('Freezing weather');

  }

  else if (temperature >= 0 && temperature <= 10) {

    print('Very Cold weather');

  }

  else if (temperature > 10 && temperature <= 20) {

    print('Cold weather');

  }

  else if (temperature > 20 && temperature <= 30) {

    print('Normal in Temp');

  }

  else if (temperature > 30 && temperature <= 40) {

    print('Its Hot');

  }

  else {

    print('Its Very Hot');

  }

}

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

void main() {

  String alphabet = 'a';

  if (isVowel(alphabet)) {

    print('$alphabet is a vowel.');

  }

  else {

    print('$alphabet is a consonant.');

  }

}

// Function to check if a character is a vowel

bool isVowel(String char) {

 char = char.toLowerCase();

 return char == 'a' || char == 'e' || char == 'i' || char == 'o' || char == 'u';

}

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: Jame  
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

void main() {

  int customerId = 1001;

  String customerName = 'James';

  int unitsConsumed = 800;

  double chargePerUnit;

  if (unitsConsumed <= 199) {

    chargePerUnit = 1.20;

  }

  else if (unitsConsumed >= 200 && unitsConsumed < 400) {

    chargePerUnit = 1.50;

  }

  else if (unitsConsumed >= 400 && unitsConsumed < 600) {

    chargePerUnit = 1.80;

  }

  else {

    chargePerUnit = 2.00;

  }

  double totalAmount = unitsConsumed \* chargePerUnit;

  double netBillAmount = totalAmount;

  print('Customer IDNO : $customerId');

  print('Customer Name : $customerName');

  print('Unit Consumed : $unitsConsumed');

  print('Amount Charges @Rs. $chargePerUnit per unit : $totalAmount');

  print('Net Bill Amount : $netBillAmount');

}