Flutter Course

1.variable and data type

```
void main() {
 var a=4;
 //a="hi";
 print(a);



 final h=1;
 //h=6;
 print(h);

 const k=6;
 //const k=h;
 print(k);

 dynamic j=6;
 j="hi";
 print(j);
 var  n= 2;//int
 var n2=3.2;//double
 num n3=2;//both int ,double
 n3 +=2.5;//now it will be double
 print(n3);
 print(n2);

 double nn=1;//1.0
//nn  + = 2.5;
 print(nn);




}
```

2.Datastructure (list, set, map)

```dart
void main() {
//list
 var list =[1,2,3];
 list.length;//3
 list[1];//2
 list[1]=7;
 print(list);
 //const list
 var list2=const[1,2,3];
 //list2[1]=7;//not work const
 print (list2);
 //append
 var list3=[0,...list];
 print(list3);


 ///sets {}unoreder
 var set1={'flu','chl','bro'};
 print (set1);
 //empty set
 var set2=<String>{};
 set2.add('nnn');
 //add set to set
 set2.addAll(set1);
 print(set2);

 ///maps key:value
 var gift={
  //key:value
  'n':'hellow',
  'r':'mine'
 };
 var gift2=Map<String,String>();
 gift2['n2']='hellow';
 gift2['r2']='mine';

 print(gift2);


 var gift3=Map<int,String>();
 gift3[1]='hellow';
 gift3[2]='mine';

 print(gift3);
 print(gift3.length);
 //access element
 print(gift3[1]);



}
```

```dart
void main() {
//convert from string
 var j = int.parse('1'); //to int
//convert to string
 String oneto = 1.toString(); //"1"
//convert to double
 var jj = double.parse('1.1');
//double to string
 String bistring = 3.1415.toStringAsFixed(2); //3.14 2digt after .
 print(j);
 print(oneto);
 print(jj);
 print(bistring);

//string with "",''
 var s1 = 'nnn';
 var s2 = "nnnn";
 print(s2);
 var s3 = 'It\'s even ';
 var s4 = "It\'s even ";
 print(s3);
 print(s4);

//get value exp inside string
 var f = 'hi';
 var f2 = '$f Nor';
 print(f2);

 var f3 = '${f.toUpperCase()} nor';
 print(f3);
 var v1 = 'hi ' + 'nor2';
 print(v1);

//boolean
 var se = '';
//assert(se.isEmpty);
 print(se.isEmpty);
 var po = 4;

 print(po == 0);
}
```

3.nullsafty

```dart
void main() {
//null saftey
 var k = 2; //int
 var kk = 'jjj'; //string
 //?to null
 int? kkk = null;
 print(kkk);

 String? a;
 //ckeck 2>1
 if (2 > 1) {
  a = '123';
 }
 //a is null at begin then in if it will be 123
 print(a!.length);

 //late
 late String aa;
 if (1 > 0) //true condition
     {
  aa = '123';
 }
 else {
  aa = '123456';
 }

 print(aa.length);
}
```

4.Funcation

```dart
void main() {
  print('j');
  print(sum(4, 7));
  print(multiply2(a: 9, b: 0));
  divide();
}

int sum(int a, int b) {
  return a + b;
}

int multiply(int aa, int bb) {
  return aa * bb;
}
//named required
int multiply2({required int a, required int b}){
 return a*b;
}
//optional
double divide([int a=2,int b=1]){
 return a/b;
}
```

6 scope

```
bool outsidemain = true; // define outside call it anwhelre
void main() {
 //iside call it in main only
 var insidemain = true;

//lexical scope
 void funcation() {
  //call it in fucation only
  var insidefuncation = true;

  //funcation inside funcation
  void nestedfun() {
   var insidenest = true;
   outsidemain;
   insidefuncation;
   insidenest;
  }
 }

//insidefuncatiom;//notworlk
 insidemain; //work well

 //call makaddin main
 var add1 = makeAdder(2);
 add1(3); //add 2 to the input 3
 print(add1(3));
}

//funcation outsidemain
Function makeAdder(int addBy) {
 //anonymosfuncation >no name like lambada in python
 return (int i) => addBy + i;
}
```

7 operators

```
void main() {
//operator
 int a = 0,
     b = 1;
 a++; //1 add 1to0
 a + b; //2
 a == b; //print true
 print(a == b); //false

//arithmetic op
 2 + 3; //5
 3 - 2; //1
 5 / 1; //5
 5 % 2; //1 remider of division
print(2+5);

 int c = 1;
 int v, g;
 v = 0;
 g = ++v; //increment before
 g == v; //1==1
print(g == v);

 g = v++; //increment after
 g == v; //1=!0


//the same sutrct-

//equall operator
 2 == 2; //true
 2 != 5; //true
 7 >= 5; //true
//test operator
//2 is int;//true
// 3 as String;//error false
print(7 >= 5);
}
```

8 controlflow&loop&switchcase

```
//if else
if (10>4)
{print ('10 is big');}
else if(7==10)
{print('7 equal 10');}
else{
 print('5 not equal 10');
}
```

```
void main() {
//loop
 var books=['arabic','english','french'];

 for (var i=0;i<books.length;i++)
 {
  print(books[i]);
 }
//while loop
 int num=0;
 while(num<10){
  if(num%2==0){
   print(num);
  }
  num++;
 }

//do while
 int i=10;
 do {
  print(i);
  i++;
 }
//false print do
 while(i>=20);
 {
  print("terminate");
 }
}
```

```
void main() {
 //break,containue
 print('n');
 int i = 0;
 while (i < 4) {
  if (i == 2) {
   break;
  }


  print('$i');
  i++;
 }



//contnos
 while (i < 4) {
  if (i == 2) {
   i++;
   continue;
  }


  print('$i');
  i++;
 }

}
```

```
void main() {
 //switchcase
 var grade="n";
 switch(grade){
  case "A":{print("excellent");}
  break;
  case "B":{print("good");}
  break;
  case "c":{print("fair");}
  break;

  default:{print("notfound");}
  break;
 }


}
```