Shift

```
import UIKit
import Darwin

//Variable
var int: Int = 27
print(int)

var double: Double = 8.5

var string: String = "Bhargav Vasani"

var choice: Bool = true

print("your name is",string)
print("\(string) has pass with \(double) CGPA.")
```

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```
//Constant
let const: Int = 27
print(const)
```

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```
//if condition (max from given 3 digit)
var a = 12
var b = 23
var c = 44

if(a>b && a>c)
{
   print("\(a) is grater then \(b) and \(c)")
}
else if(b>a && b>c)
{
   print("\(b) is grater then \(a) and \(c)")
}
else
{
   print("\(c) is grater then \(a) and \(b)")
}
```

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```
//Login
var username = "admin"
var password = "admin@123"
if(username == "admin" && password == "admin@123")
{
   print("login Successfully...")
}
```

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```
//Switch case
var x = 12
var y = 15
var apply = "Add"
switch(apply)
{
case "Add": print(x+y)
case "Sub": print(x-y)
case "Mul": print(x*y)
case "Div": print(x/y)
default: print("Invalid Entry...")
}
```

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```
//Array
var arr = ["bkv","optical","fiber"]
for i in arr{
   print(i)
}
```

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```
//update value
var ar:[String] = ["bkv","optical","fiber"]
ar[1]="change"
for i in ar{
   print(i)
}
```

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```
//count
var array = ["bkv","optical","fiber"]
for i in 0..<array.count {
```

```
    print(array[i])
}
```

```
//Display only even number
var seq:[Int] = [12,34,44,55,66,33,47]
for j in 0..<seq.count{
    if(seq[j] % 2 == 0)
    {
        print(seq[j])
    }
}
```

```
//Display only those string whose count > 3
var cou = ["bkv","optical","fiber"]
for k in cou
{
    if(k.count > 3)
    {
        print(k)
    }
}
```

```
//Find Prime Number - not prime number
var flag = 0
var num : Int = 54
for i in 2...num/2{
    if(num % i == 0)
    {
        flag = 1
        break;
    }
}
if flag == 0{
    print("\(num) is prime number")
}else{
    print("\(num) is not prime number")
}
```

```
//Find Odd even number
```

```
var n:[Int] = [12,34,44,55,66,33,47]
for j in 0..<n.count{
   if(n[j] % 2 == 0)
   {
      print("even number",n[j])
   }
   else{
      print("odd number",n[j])
   }
}
```

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```
var greet = "Hello "
var name = "Jack"

greet.append(name)
print(greet)
```

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```
// print with terminator space
print("Good Morning!", terminator: " ")

print("It's rainy today")

print("New Year", 2022, "See you soon!", separator: ". ")
```

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```
import UIKit

var str1:String = "Dhaval"
var str2:String = "Nimavat"

print("Hello \nMr.\(str1) \(str2)")

var i = str1.characters.count
      var j = str2.characters.count

      if(i>j)
      {
         print("\(str1) has more string length")

      }
      else if(i<j)
      {
         print("\(str2) has more string length")
```

```
    }
    else
    {
       print("Both String has same length")
    }
```

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1. Develop Swift Program to understand String Operation using “LOOP”

```
    import UIKit

    var str1 = "R.K.U"

    var len_str1:Int = str1.characters.count

    print("While Loop:-")
  while len_str1>0
    {
       print(str1)
       len_str1 = len_str1-1
    }

    print("\nFor Loop:-")

    for i in 1...str1.characters.count
    {
    print(i)
    }
```

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2. Develop Swift program to convert FAHRENHEIT to CELSIUS using Swift Function without return values.

```
import UIKit

//FAHRENHEIT to CELSIUS Function
func ftoc(f:Float)
{
   let c = (f-32)/1.8
   print(c)
}


//CELSIUS to FAHRENHEIT Function
func ctof(c:Float)
{
```

```
    let f = (c*1.8)+32
    print(f)
}

//Calling Function

ftoc(76.2)

ctof(80.2)
```

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3. Develop Swift program to convert FAHRENHEIT to CELSIUS using Swift Function with return values.

```
import UIKit

//Fuction with Return Value

func ctof(c:Float)->Float
{
    let f = (c*1.8)+32
    return f
}

//Function with Return Value

func ftoc(f:Float)->Float
{
    let c = (f-32)/1.8
    return c
}

//Call Function

print(ctof(38.4))
print(ftoc(102.5))
```

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1. Develop Swift program for “Swift Array”, “Swift Dictionary”, “Swift Sets” and “Swift Tuples”

Solution:

```
import UIKit
```

```
//Array String
print("1.Array String:--")
var i:[String] = ["RK","University","Rajkot"]

print("\(i[0])'s String length is \(i[0].characters.count)")
print("\(i[1])'s String length is \(i[1].characters.count)")
print("\(i[2])'s String length is \(i[2].characters.count)")

//Array Integer
print("\n2.Array Integer:---")
var j:[Int] = [12,23,34,56]
print(j[0])
print(j[1])
print(j[2])
print(j[3])

//Dictionary
print("\n3. Dictionary:---")
var id:[Int:String] = [1:"Dhaval",2:"Nimavat",3:"RK"]
id.updateValue("Shreyas", forKey:1)
id.updateValue("RKU", forKey: 3)
print(id[3]!)

//Sets
print("\n4. Sets:---")
var s1:Set = [10,30,50,70,80]
var s2:Set = [20,40,60,80]
print(s1.union(s2).sort())
print(s1.intersect(s2).sort())


//Tuples
print("\n5.Tuples:---")
let employe = (name:"Dhaval",age:32,school:"RKU")
print(employe.name)
print(employe.school)
print(employe.age)

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//function
//Simple Function
func show(name: String) -> String {
    let n = "Hello, My Name Is " + name
    return n
}
```

```
var myname = show(name:"Bhargav")
print(myname)

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//Calculator Using the Function
func cal(a:Int, b:Int) -> (Double,Double,Double,Double){
    let add = Double(a) + Double(b)
    let sub = Double(a) - Double(b)
    let mul = Double(a) * Double(b)
    let div = Double(a) / Double(b)
    return (add,sub,mul,div)
}
var disply = cal(a:10,b:30)
//print(disply)
print("Addition is : ",disply.0)
print("Subtraction is : ",disply.1)
print("Multiplication is : ",disply.2)
print("Division is : ",disply.3)

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//Gst Calculator

func GST(price:Int) -> (Double,Double,Double)
{
    //Gst for 12 %
    let a = Double(price) + (Double(price)*0.12)
    //Gst for 18 %
    let b = Double(price) + (Double(price)*0.18)
    //Gst for 26 %
    let c = Double(price) + (Double(price)*0.26)
    return (a,b,c)
}
var resul = GST(price: 100)
print("With 12% Gst :",resul.0)
print("With 18% Gst :",resul.1)
print("With 26% Gst :",resul.2)

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//Calculate area of diffrent types of shap
let pi = 3.14
func area(n1: Int, n2: Int) -> (Double, Double, Double, Double, Double){
    let aoc = pi * Double(n1) * Double(n2)
    print("Radius Is \(n1)")
```

```
    let aor = Double(n1 * n2)
    print("Length Is \(n1) And Breadth Is \(n2)")

    let aos = Double(n1 * n1)
    print("Length Of Square Side Is \(n1)")

    let aot = 0.5 * Double(n1) * Double(n2)
    print("Base Is \(n1) And Height Is \(n2)")

    let acone = (pi * Double(n1) * Double(n1)) + (pi * Double(n1) * Double(n2))
    print("Radius Is \(n1) , Slant Height Is \(n2)")

    return (aoc, aor, aos, aot, acone)
}
var result = area(n1: 10,n2: 15)

print("Area of Circle is :", result.0)
print("Area of Rectangle is :", result.1)
print("Area of Square is :", result.2)
print("Area of Triangle is :", result.3)
print("Area of Cone is :", result.4)

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//Factorial using Function
func factorial(of num: Int) -> Int {
    if num == 1 {
        return 1
    }
    else {
        return num * factorial(of:num - 1)
    }
}

var res = factorial(of: 6)
print("Factorial : ", res)

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//Fibonacci Series Using the Recursion Function
func fibona(num1: Int) -> Int{
    if num1 == 0{
        return 0
    }
    else if num1 == 1{
        return 1
    }
```

```
    else{
        return (fibona(num1:num1 - 1) + fibona(num1:num1 - 2))
    }
}

var fibonacci = 5

//Using for loop
for i in 0...fibonacci{
    print(fibona(num1: i))
}

//Using While Loop
var i = 0
while(fibonacci >= i){
    print(fibona(num1: i))
    i += 1
}
```

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```
//While Loop

//Disply your name in 10 times sequence is 100 to 110
var count1 = 110
var j = 100
while(count1 >= j)
{
    print("\(j) bhargav")
    j += 1
}
```

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```
//For Loop
var a1:[Int] = [11,22,33,44]
print(a1[0])
for i in 0...a1.count-1
{
    print(i,"bhargav")
    print(a1[i])
}
```

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```
import UIKit
import Security


//Dictionaries

//var stud_dic : [String:Any] = ["id":1,"name":"bhargav","salary":20]
//print(stud_dic)
//print(stud_dic["name"]!)
//
//stud_dic.updateValue("bkv", forKey: "name")
//stud_dic.removeValue(forKey: "name")
//stud_dic.updateValue(2, forKey: "salary")
//print(stud_dic)

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//Enumeration

//enum Weather
//{
//    case rajkot
//    case pune
//    case surat
//}
//
//var ch = Weather.rajkot
//
//switch (ch)
//{
//    case .rajkot :
//        print("rajkot temprature is 35")
//    case .pune:
//        print("pune temprature is 40")
//    case .surat:
//        print("surat temprature is 42")
//}
//
//print(ch)

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//Structure
//
//struct stu
//{
//    var name : String = ""
```

```
//    var age : Int = 0
//    var id : Int = 0
//    var salary : Int = 0
//}
//var s1 = stu()
//s1.name = "bhargav"
//s1.age = 20
//s1.id = 1
//s1.salary = 20000
//print(s1)

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//set

//let evens: Set = [10,12,14,16,18]
//let odds: Set = [5,7,9,11,13]
//let primes = [2,3,5,7]
//odds.union(evens).sorted()
//odds.intersection(evens).sorted()
//odds.subtracting(primes).sorted()

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//Tuples
//let dataProviders = (["name": "Joy"], ["John", "Kelly"], "Joy",  1000, false)
//print(dataProviders)
//
//var values: (dic:[String: Any], array: [String], name: String, number: Int) = (dic:
["name": "Joy"],
//              array : ["John", "Kelly"],
//              name: "Joy",
//              number: 10)
//print(values)

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//Pattern

//for i in  0...4{
//    for j in stride(from: 4, to: i, by: -1){
//        print( terminator : " ")
//    }
//    for k in 0...i{
//        print(k,terminator : "")
//    }
//    print(" ")
```

```
//}
//Output
//    0
//   01
//  012
// 0123
//01234


//for i in  0...4{
//    for j in stride(from: 4, to: i, by: -1){
//        print( terminator : " ")
//    }
//    for k in 0...i{
//        print("*",terminator : "")
//    }
//    print(" ")
//}
//Output
//    *
//   **
//  ***
// ****
//*****


//for i in stride(from: 0, to: 5, by: 1){
//
//    for j in stride(from: 5, to: i, by: -1){
//        print(j , terminator : "")
//    }
//    print(" ")
//
//}
//Output
//54321
//5432
//543
//54
//5


//for i in stride(from: 5, to: 0, by: -1)
//{
//
//    for j in stride(from: 5, to: i-1, by: -1){
//
```

```
//      print(j , terminator : "")
//    }
//    print(" ")
//}
//Output
//5
//54
//543
//5432
//54321


//for i in stride(from: 5, to: 0, by: -1)
//{
//    for j in 1...i{
//        print(j, terminator : "")
//    }
//    print(" ")
//}
//Output
//12345
//1234
//123
//12
//1


//var value = 0
//for i in 1...5 {
//
//    for j in 1...i{
//        value = value + 1
//        print(value,terminator : "")
//    }
//    print(" ")
//}
//Output
//1
//23
//456
//78910
//1112131415


//for i in 1...5{
//
//    for j in 1...i{
```

```
//
//    print(i+1 - j , terminator : "")
//    }
//    print(" ")
//}

//Or

//for i in 1...5{
//    for j in stride(from: i, to: 0, by: -1){
//        print(j, terminator : "")
//    }
//    print(" ")
//}

//Output
//1
//21
//321
//4321
//54321


//var value = 0
//for i in 1...5{
//
//    for j in 1...i{
//        if j != 1{
//            value = value + 5
//        }
//        else{
//            value = i
//        }
//        print(value , terminator : " ")
//    }
//    print(" ")
//}
////Output
//1
//2 7
//3 8 13
//4 9 14 19
//5 10 15 20 25


//for i in 1...5{
//    var temp = i
```

```
//    for j in 0...i{
//        print(temp , terminator : " ")
//        temp = temp + 5
//    }
//    print(" ")
//
//}
////Output
//1 6
//2 7 12
//3 8 13 18
//4 9 14 19 24
//5 10 15 20 25 30


//var value = 1
//for i in 1...5{
//
//    for j in 1...i{
//         print(j,terminator : "")
//    }
//
//        for k in 1..<i{
//        print(i-k,terminator : "")
//    }
//print(" ")
//}
//Output
//1
//121
//12321
//1234321
//123454321


//for i in stride(from: 5, to: 0, by: -1){
//    for k in stride(from: 5, to: i, by: -1) {
//        print(terminator : " ")
//    }
//        for j in stride(from: 1, to: i+1, by: 1){
//           print("*",terminator : " ")
//    }
//
//
//    print(" ")
//}
//Output
```

```
//* * * * *
// * * * *
//  * * *
//   * *
//    *
//1 2 3 4 5
// 1 2 3 4
//  1 2 3
//   1 2
//    1


//for i in 1...5{
//    for k in stride(from: 5, to: i, by: -1) {
//        print(terminator : " ")
//    }
//
//    for j in 1...i{
//        print(j,terminator : " ")
//    }
//    print(" ")
//}
//for i in stride(from: 5, to: 0, by: -1){
//    for k in stride(from: 5, to: i-1, by: -1) {
//        print(terminator : " ")
//    }
//        for j in stride(from: 1, to: i, by: 1){
//           print(j,terminator : " ")
//    }
//  print(" ")
//}
////Output
//    1
//   1 2
//  1 2 3
// 1 2 3 4
//1 2 3 4 5
// 1 2 3 4
//  1 2 3
//   1 2
//    1


//for i in 1...5{
//
//    for j in stride(from: i, to: 6, by: 1){
//        print(j , terminator : "")
```

```
//    }
//
//    print(" ")
//}
//for i in stride(from: 5, to: 0, by: -1)
//{
//
//    for j in stride(from: i, to: 6, by: 1){
//        print(j,terminator : "")
//    }
//    print(" ")
//}
//Output
//12345
//2345
//345
//45
//5
//5
//45
//345
//2345
//12345


//for i in 1...5{
//    for k in 0...i{
//        print(terminator : " ")
//    }
//    for j in stride(from: i, to: 6, by: 1){
//        print(j , terminator : " ")
//    }
//
//    print(" ")
//}
//Output
//1 2 3 4 5
// 2 3 4 5
//  3 4 5
//   4 5
//    5


//for i in 1...5{
//    for k in 1...i{
//        print(terminator : " ")
//    }
```

```
//    for j in stride(from: i, to: 6, by: 1){
//        print(j , terminator : "")
//    }
//
//    print(" ")
//}
//for i in stride(from: 5, to: 0, by: -1)
//{
//    for k in 1...i{
//        print(terminator : " ")
//    }
//    for j in stride(from: i, to: 6, by: 1){
//        print(j,terminator : "")
//    }
//    print(" ")
//}
//Output
//12345
// 2345
//  345
//   45
//    5
//    5
//   45
//  345
// 2345
//12345


//for i in 1...5{
//    for k in 0...i{
//        print(terminator : " ")
//    }
//    for j in stride(from: i, to: 6, by: 1){
//        print(j , terminator : " ")
//    }
//
//    print(" ")
//}
//
//for i in stride(from: 6, to: 1, by: -1){
//    for k in 1...i{
//        print(terminator : " ")
//    }
//    for j in stride(from: i-1, to: 6, by: 1){
//        print(j , terminator : " ")
//    }
```

```
//
//    print(" ")
//}
//
//1 2 3 4 5
// 2 3 4 5
//  3 4 5
//   4 5
//    5
//    5
//   4 5
//  3 4 5
// 2 3 4 5
//1 2 3 4 5


//for i in 0...4{
//    for j in 0...i{
//        if j % 2 == 0{
//        print(1,terminator : " ")
//        }
//        else{
//            print(0,terminator : " ")
//        }
//    }
//    print(" ")
//}
//
//1
//1 0
//1 0 1
//1 0 1 0
//1 0 1 0 1


//for i in 1...5{
//    for j in 1...5{
//
//        if j == i{
//            print(j,terminator : " ")
//        }
//        else{
//            print(0,terminator : " ")
//        }
//
//    }
//    print(" ")
```

```
//}
//
//1 0 0 0 0
//0 2 0 0 0
//0 0 3 0 0
//0 0 0 4 0
//0 0 0 0 5


//for i in 1...5
//{
//  for _ in 1...i
//  {
//     print("*",terminator : "")
//  }
//
//  print("")
//}
//for i in 1...4
//{
//  for _ in stride (from: 5, to: i, by: -1)
//  {
//     print("*",terminator : "")
//  }
//
//  print("")
//}
//
//*
//**
//***
//****
//*****
//****
//***
//**
//*
```