***Kotlin Basic Practical List***

**1. Write a program that prints your name and your college name.**

**1. Write a program that prints your name and your college name.**

**fun main(){**

**val name = "Jeet"**

**val clg ="Atmiya"**

**println("My name is $name and my clg name is $clg")**

**}**

**2. Write a program that prints your address with name.**

**fun main(){**

**val name = "Jeet"**

**val address ="master society fulwadi plot bhayavadar 360450"**

***println*("My name is $name and my Address is $address")**

**}**

**3. Write a program that accept two numbers and perform all basic mathematical operation and print.**

**fun main() {**

**val num1 = 20;**

**val num2 = 10;**

***println*("Sum of two number is : ${num1 + num2}")**

***println*("Sub of two number is : ${num1 - num2}")**

***println*("Mul of two number is : ${num1 \* num2}")**

***println*("Div of two number is : ${num1 / num2}")**

**}**

**4. Write a program to calculate simple interest.**

**fun main(){**

**val price = 10000**

**val rate = 12**

**val n = 2**

***println*("Simple interest is : ${price\*rate\*n/100}")**

**}**

**5. Write a program to calculate compound interest**

**fun main() {**

***print*("Enter the principal amount: ")**

**val principal = *readLine*()!!.*toDouble*()**

***print*("Enter the rate of interest: ")**

**val rate = *readLine*()!!.*toDouble*()**

***print*("Enter the time period in years: ")**

**val time = *readLine*()!!.*toDouble*()**

***print*("Enter the number of times interest is compounded per year: ")**

**val n = *readLine*()!!.*toDouble*()**

**var CompoundInterest = principal \* Math.pow((1 + rate / (n \* 100)), n \* time)**

***println*("--------------------------")**

***println*("Simple Compound Interest is : $CompoundInterest")**

**}**

**6. Write a program to calculate 10% bonus of salary.**

**fun main() {**

**val salary = 20000**

**val bonus = salary \* 10/100**

***println*("$bonus")**

**}**

**7. Write a program to convert KM into Meter**

**fun main(){**

**val km = 5**

**val meter = 1000\*km**

***println*("Convert KM into meter : $meter")**

**}**

**8. The distance between two cities is input through keyboard. Write a program to convert and print this distance in feet, meter, inch and centimeter**

**9. Write a program to find volume of cylinder (v = 3.14r2h )**

**fun main(){**

**val r = 3**

**val h = 5**

**val v = (3.14\*r\*r\*h)**

***println*("Volume of clnder is : $v")**

**}**

**10. Write a program to calculate area of triangle (a = 1/2hb)**

**fun main(){**

**val h = 10**

**val b = 3**

**val a= 0.5\*h\*b**

***println*("Area of circle is : $a")**

**}**

**11. Write a program to calculate area and perimeter of the rectangle**

**fun main() {**

**var length = 10**

**var width = 5**

**var area = length \* width**

**var perimeter = 2 \* (length + width)**

***println*("Dimensions of the rectangle:")**

***println*("Area of the rectangle: $area square units")**

***println*("Perimeter of the rectangle: $perimeter units")**

**}**

**12. Write a program to calculate area of circle**

**fun main() {**

**val r = 8.5**

**val area = (3.14\*r\*r)**

***println*("Area of Circe is : $area")**

**}**

**13. Write a program to swap two values**

**fun main() {**

**var num1 = 20**

**var num2 = 10**

***println*("Before swapping:")**

***println*("Number1 = $num1")**

***println*("Number2 = $num2")**

**// Swapping logic using a temporary variable**

**val temp = num1**

**num1 = num2**

**num2 = temp**

***println*("After swapping:")**

***println*("Number1 = $num1")**

***println*("Number2 = $num2")**

**}**

**14. Write a program to swap two values without using third variable**

**fun main() {**

**var num1 = 10**

**var num2 = 20**

**println("-------- Before Swaping --------")**

***println*("value of Number1 is : $num1")**

***println*("value of Number2 is : $num2")**

**num1 = num1 + num2**

**num2 = num1 - num2**

**num1 = num1 - num2**

***println*("-------- After Swaping --------")**

***println*("value of Number1 is : $num1")**

***println*("value of Number2 is : $num2")**

**}**

**15. Write a program to read the value of X and Y and print the result of following expression (X+Y)/(X-Y)**

**fun main() {**

***print*("Enter the value of X: ")**

**val x = *readLine*()?.*toDoubleOrNull*()**

***print*("Enter the value of Y: ")**

**val y = *readLine*()?.*toDoubleOrNull*()**

**if (x!= null && y!= null && x - y != 0.0) {**

**var result = (x + y) / (x - y)**

***println*("Result of (X + Y) / (X - Y) = $result")**

**}else**

**{**

***println*("Invalid input or division by zero. Please enter valid non-zero values for X and Y.")**

**}**

**}**

**16. Write a program to read the value of X and Y and print the result of following expression (X+Y)/2**

**fun main() {**

***print*("Enter the value of X : ")**

**var x = *readLine*()?.*toDoubleOrNull*()**

**print("Enter the value of Y : ")**

**var y = *readLine*()?.*toDoubleOrNull*()**

**if(x != null && y != null) {**

**var result = (x + y ) / 2**

***println*("result of (x + y)/2 = $result")**

**}else{**

***println*("Please enter the value of X to Y ")**

**}**

**}**

**17. Write a program to read the value of X and Y and print the result of following expression (X+Y)\*(X-Y)**

**fun main() {**

***print*("Enter the value of X : ")**

**var x = *readLine*()?.*toDoubleOrNull*()**

***print*("Enter the value of Y : ")**

**var y = *readLine*()?.*toDoubleOrNull*()**

**if(x != null && y != null) {**

**var result = (x + y) \* (x - y)**

***println*("result of (x + y) \* (x - y) = $result")**

**}else{**

***println*("Please enter the value of X to Y ")**

**}**

**}**

**18. Write a program to read the value of X and Y and print the result of following expression 3X2+2XY+3Y2**

**fun main() {**

**print("Enter the value of X : ")**

**var x = *readLine*()?.*toDoubleOrNull*()**

***print*("Enter the value of Y : ")**

**var y = *readLine*()?.*toDoubleOrNull*()**

**if(x != null && y != null) {**

**var result = (3 \* x \* x ) + (2 \* x \* y) + (3 \* y \* 2)**

***println*("result of (3 \* x \* x ) + (2 \* x \* y) + (3 \* y \* 2) = $result")**

**}else{**

***println*("Please enter the value of X to Y ")**

**}**

**}**

**19. Write a program to read the value of X and Y and print the result of following expression (2X+3Y)/XY**

**fun main() {**

**print("Enter the value of X : ")**

**var x = readLine()?.toDoubleOrNull()**

**print("Enter the value of Y : ")**

**var y = *readLine*()?.*toDoubleOrNull*()**

**if(x != null && y != null) {**

**var result = (2\*x + 3\*y) / (x \* y)**

***println*("result of (2\*x + 3\*y) / (x \* y) = $result")**

**}else{**

***println*("Please enter the value of X to Y ")**

**}**

**}**

**20. Write a program to convert negative to positive and positive to negative**

**fun main() {**

**var Positivenumber = 100**

**Positivenumber = -Positivenumber**

**// Print the converted number**

***println*("Converted number: $Positivenumber")**

**}**

**21. Write a program that accept 5 numbers from user and find average of the value**

**fun main() {**

**var sum=0.0**

***println*("Enter 5 numbers:")**

**for (i in 0 .. 4) {**

***print*("Enter number ${i + 1}: ")**

**val num = *readLine*()?.*toDoubleOrNull*()!!**

**sum += num**

**}**

**val average = sum / 5**

***println*("------------------------------")**

***print*("average of five numbers is = $average")**

**}**

**22. Write a program to find out the net salary of an employee and get the basic salary from him.**

**Applicable TA 4%, DA 30%, HRA 15% on basic salary. Applicable 3% tax 12% PF on basic salary**

**fun main() {**

***print*("Enter the basic salary:")**

**var basicSalary = *readLine*()!!.*toDouble*()**

***println*("---------------------------")**

**var ta = basicSalary \* 0.04**

**var da = basicSalary \* 0.30**

**var hra = basicSalary \* 0.15**

**var grossSalary = basicSalary + ta + da + hra**

**var tax = basicSalary \* 0.03**

**var pf = basicSalary \* 0.12**

**var netsalary = grossSalary - tax - pf**

***println*("Basic Salary: $basicSalary")**

***println*("TA: $ta")**

**println("DA: $da")**

***println*("HRA: $hra")**

***println*("Gross Salary: $grossSalary")**

***println*("Tax: $tax")**

***println*("PF: $pf")**

***println*("Net Salary: $netsalary")**

**}**

**23. Write a program to find maximum number from 2 numbers**

**fun main() {**

**var num1 = 20**

**var num2 = 15**

**if (num1 > num2)**

**{**

**println("The maximum number between $num1 and $num2 is : $num1")**

**}else{**

**println("The maximum number between $num1 and $num2 is : $num2")**

**}**

**}**

**24. Write a program to find out minimum number from 2 numbers**

**fun main() {**

**var num1 = 20**

**var num2 = 15**

**var MinNumber = 0**

**if(num1 < num2){**

**MinNumber = num1**

**}else{**

**MinNumber = num2**

**}**

**println("The Minimum number between $num1 and $num2 is : $MinNumber")**

**}**

**25. Write a program to find minimum and maximum no from 2 numbers.**

**fun main() {**

***print*("Enter the first number : ")**

**var num1 = *readLine*()!!.*toFloat*()**

***print*("Enter the second number : ")**

**var num2 = *readLine*()!!.*toFloat*();**

**if (num1>num2)**

**{**

***println*("$num2 is smaller number ")**

***println*("$num1 is largest number")**

**}**

**else if(num2>num1)**

**{**

***println*("$num1 is smaller number ")**

***println*("$num2 is largest number")**

**}**

**else**

**{**

***print*("The numbers are equal")**

**}**

**}**

**26. Write a program to check number is odd or even**

**fun main() {**

***print*("Enter the Number : ")**

**var num = *readLine*()!!.*toInt*()**

**if(num % 2 == 0){**

***println*("$num is an even number")**

**}else{**

***println*("$num is an odd number")**

**}**

**}**

**27. Write a program that accepts the year from user and check it leap year or not.**

**fun main() {**

***print*("Enter the year : ")**

**val year = *readLine*()!!.*toInt*()**

***println*("------------------------------------")**

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

***println*("$year is leap year")**

**}else{**

***println*("$year is not leap year")**

**}**

**}**

**28. Write a program to that accept the number from user and check it is divisible by 5 or not.**

**fun main() {**

**print("Enter a Number : ")**

**var num = readLine()!!.toDouble()**

**if(num % 5 == 0.0){**

**print("$num is divisible by 5")**

**}else{**

**print("$num is not divisible by 5")**

**}**

**}**

**29. Write a program that accept the number from user and check its negative, positive or zero**

**fun main() {**

**print("Enter a number : ")**

**val num = readLine()!!.toDouble()**

**println("--------------------------------")**

**if (num > 0){**

**println("$num is positive")**

**}else if (num < 0)**

**{**

**println("$num is negative ")**

**}else**

**{**

**println("$num is Zero ")**

**}**

**}**

**30. Write a program input one integer number. Check whether number is equal to 10 or not.**

**fun main() {**

**print("Enter a interger number : ")**

**var num = readLine()?.toIntOrNull()**

**println("---------------------------------")**

**if(num == 10){**

**println("$num is equal to 10")**

**}else{**

**println("$num is not equal to 10")**

**}**

**}**

**31. Write a program input one integer number check whether number is in between 0 to100 or not**

**fun main() {**

**print("Enter a number : ")**

**val num = readLine()?.toIntOrNull()**

**if(num != null && num in 0 .. 100)**

**{**

**print("The number $num is between 0 and 100.")**

**}else**

**{**

**println("The number $num is not between 0 and 100.")**

**}**

**}**

**32. Write a program input one integer number check whether number is four digits or not**

**fun main() {**

***print*("Enter a integer number :")**

**var num = *readLine*()?.*toIntOrNull*()**

**if (num != null && num in 1000 .. 9999) {**

***println*("The number $num is a four-digit number.")**

**}else{**

***println*("The number $num is not a four-digit number.")**

**}**

**}**

**33. Write a program input one integer number check whether is greater than 50 and lessthen 200**

**fun main() {**

***print*("Enter a number : ")**

**var num = *readLine*()?.*toIntOrNull*()**

**if(num != null && num > 50 && num < 200){**

***println*("The number $num is greater than 50 and less than 200.")**

**}else {**

***println*("The number is not within the range (greater than 50 and less than 200).")**

**}**

**}**

**34. Write a program input one integer number display appropriate day of week.**

**fun main() {**

**print("Enter a number between 1 and 7 :")**

**val num = readLine()?.toIntOrNull()**

**val dayOfWeek = when (num) {**

**1 ->"Monday"**

**2 -> "Tuesday"**

**3 -> "Wednesday"**

**4 -> "Thursday"**

**5 -> "Friday"**

**6 -> "Saturday"**

**7 -> "Sunday"**

**else -> {**

**print("Invalid day number. Please enter a number between 1 and 7.")**

**return**

**}**

**}**

**println("Day of the week is $dayOfWeek")**

**}**

**35. Write a program input one integer number display appropriate name of month**

**fun main() {**

**print("Enter a number 1-12 to display the appropriate month name : ")**

**val Number = readLine()?.toIntOrNull()**

**val month = when (Number) {**

**1 -> "January"**

**2 -> "February"**

**3 -> "March"**

**4 -> "April"**

**5 -> "May"**

**6 -> "June"**

**7 -> "July"**

**8 -> "August"**

**9 -> "September"**

**10 -> "October"**

**11 -> "November"**

**12 -> "December"**

**else -> {**

**print("Invalid input. Please enter a number between 1 and 12.")**

**return**

**}**

**}**

**println("Month name is: $month")**

**}**

**36. Write a program to find out maximum from three number**

**fun main() {**

**print("Enter the first number : ")**

**var num1 = readLine()?.toIntOrNull()**

**print("Enter the second number : ")**

**var num2 = readLine()?.toIntOrNull()**

**print("Enter the third number : ")**

**var num3 = readLine()?.toIntOrNull()**

**println("----------------------------------------")**

**if(num1 != null && num2 != null && num3 != null) {**

**if (num1 >= num2 && num1 >= num3) {**

**print("The maximum number is : $num1")**

**} else if (num2 >= num1 && num2 >= num3) {**

**print("The maximum number is : $num2")**

**} else {**

**print("The maximum number is : $num3")**

**}**

**}**

**}**

**37. Write a program to find out minimum from three number**

**fun main() {**

**print("Enter the first number : ")**

**var num1 = readLine()?.toIntOrNull()**

**print("Enter the second number : ")**

**var num2 = readLine()?.toIntOrNull()**

**print("Enter the third number : ")**

**var num3 = readLine()?.toIntOrNull()**

**println("----------------------------------------")**

**if (num1!=null && num2!=null && num3!=null){**

**if(num1<=num2&&num1<=num3){**

**print("The minimum number is : $num1")**

**}else if(num2<=num3&&num2<=num1){**

**print("The minimum number is : $num2")**

**}else{**

**print("The minimum number is : $num3")**

**}**

**}**

**}**

**38. Enter age of person and display message as**

**Up to 5 year Kid**

**5- 12 Children**

**13 – 19 Teenager**

**20 – 30 Young**

**31 – 60 Mid age group**

**60 or above Old**

**fun main() {**

**print("Enter the age of the person : ")**

**var age = readLine()?.toIntOrNull()**

**if(age!=null){**

**if(age<=5){**

**println("Up to 5 years: Kid")**

**}else if (age in 6 ..12){**

**println("5-12 years: Children")**

**}else if(age in 13 ..19){**

**println("13-19 years: Teenager")**

**}else if(age in 20 ..30){**

**println("20-30 years: Young")**

**} else if (age in 31..60) {**

**println("31-60 years: Mid age group")**

**} else if (age >= 61) {**

**println("60 years and above: Old")**

**} else {**

**println("Invalid age")**

**}**

**} else {**

**println("Please enter a valid number.")**

**}**

**}**

**39. Write a program input integer number and select number to perform following task**

**1 – Addition**

**2 – Subtraction**

**3 – Multiplication**

**4 – Division**

**5 – Exit**

**fun main() {**

**var choice: Int**

**var result: Double**

**do {**

**println("1 - Addition")**

**println("2 - Subtraction")**

**println("3 - Multiplication")**

**println("4 - Division")**

**println("5 - Exit")**

**print("Enter your choice : ")**

**choice = readLine()!!.toInt()**

**println("------------------------------")**

**if (choice in 1..4) {**

**print("Enter first number : ")**

**var num1 = readLine()?.toDoubleOrNull()**

**print("Enter second number : ")**

**var num2 = readLine()?.toDoubleOrNull()**

**println("-------------------------------")**

**if(num1!=null && num2!=null) {**

**when (choice) {**

**1 -> {**

**result = (num1 + num2)**

**println(" Addition is: $result")**

**}**

**2 -> {**

**result = (num1 - num2)**

**println(" Subtraction is : $result")**

**}**

**3 -> {**

**result = (num1 \* num2)**

**println("Multiplication is : $result")**

**}**

**4 -> {**

**if (num2 != 0.0) {**

**result = (num1 / num2)**

**println("Division is : $result")**

**} else {**

**println("Error: Division by zero")**

**}**

**}**

**}**

**}**

**} else if (choice == 5) {**

**println("Exiting program.")**

**} else {**

**println("Invalid choice. Please enter a number between 1 and 5.")**

**}**

**println()**

**} while (choice != 5)**

**}**

**40. Write a program input 5 subject marks and find class and result**

**fun main() {**

**val numberOfSubjects = 5**

**var totalMarks = 0**

**for( i in 1..numberOfSubjects) {**

***print*("Enter marks for subject ${i}: ")**

**val marks = *readLine*()!!.*toInt*()**

**totalMarks += marks**

**}**

***println*("-----------------------------------")**

**val averageMarks = totalMarks / numberOfSubjects**

***println*("\nAverage marks: $averageMarks")**

**if (averageMarks >= 70) {**

***print*("Result: Distinction")**

**} else if (averageMarks >= 60) {**

***println*("Result: First Class")**

**} else if (averageMarks >= 50) {**

***println*("Result: Second Class")**

**} else if (averageMarks >= 40) {**

***println*("Result: Pass")**

**} else {**

**println("you have failed. Please work harder. Fail")**

**}**

**}**

**41. Write a program to find number which number is divisible by 3 but not divisible by 7**

**fun main() {**

***print*("Enter a number: ")**

**val number = *readLine*()!!.*toInt*()**

**if (number % 3 == 0 && number % 7 != 0) {**

***println*("$number is divisible by 3 but not by 7.")**

**} else {**

***println*("$number is not divisible by 3 or it is divisible by 7.")**

**}**

**}**

**42. Write a program that reads a sales bill amount calculate discount on bill amount as follows**

**if bill amount less than 5000 calculate 7.5% discount on bill amount otherwise calculate11%discount on bill. Print bill amount discount amount and net payable bill**

**fun main() {**

**print("Enter the sales bill amount: ")**

**val billAmount = readLine()!!.toDouble()**

**if (billAmount < 5000) {**

**val discount = billAmount \* 7.5 / 100**

**val netPayable = billAmount - discount**

**println("Bill Amount: $billAmount")**

**println("A discount of 7.5% has been applied.")**

**println("Discount Amount: $discount")**

**println("Net Payable Bill: $netPayable")**

**} else {**

**val discount = billAmount \* 11.0 / 100**

**val netPayable = billAmount - discount**

**println("Bill Amount: $billAmount")**

**println("A discount of 11% has been applied.")**

**println("Discount Amount: $discount")**

**println("Net Payable Bill: $netPayable")**

**}**

**}**

**43. An electric power distribution company charger its domestic customers as follows Consumption unit rate of charge**

**0 – 200 RS. 0.50 per unit**

**201 – 400 RS. 100 + RS. 0.65 per unit**

**401 – 600 RS. 230 + RS. 0.80 per unit**

**601 and above RS. 390 + RS. 1.00 per unit**

**Read the customer number and power consumed and print the amount to be paid by the customer**

**fun main() {**

**println("Enter your data of power consumed : ")**

**var data= readLine()!!.toFloat()**

**if(data>0 && data<=200)**

**{**

**println("You have to pay ${data\*0.50} Rs.")**

**}**

**else if (data>200 && data<=400)**

**{**

**println("You have to pay ${data\*1.65} Rs.")**

**}**

**else if(data>400 && data<=600)**

**{**

**println("You have to pay ${data\*(230+0.85)} Rs.")**

**}**

**else if (data>600)**

**{**

**println("You have to pay ${data\*(391)} Rs.")**

**}**

**else**

**{**

**println("Invalid input")**

**}**

**}**

**44. Get a string from user and display it in upper case**

**fun main() {**

**print("Enter any value : ")**

**var string = readLine()!!.toString();**

**var userstring= string.uppercase()**

**println("The string in upper case is $userstring")**

**}**

**45. Get a string from user and display it in lower case**

**fun main() {**

**print("Enter any value : ")**

**var string = readLine()!!.toString();**

**var lowerstring= string.lowercase()**

**println("The string in upper case is $lowerstring")**

**}**

**46. Get a string from user and check it is vowel or consonants**

**fun main() {**

**print("Enter a string: ")**

**val input = readLine()!!**

**val vowels = "aeiouAEIOU"**

**for (char in input) {**

**if (char in vowels) {**

**println("$char is a vowel")**

**} else if (char.isLetter()) {**

**println("$char is a consonant")**

**} else {**

**println("$char is not a letter")**

**}**

**}**

**}**

**47. Write a program that accept character from keyboard and determine whether the character is a capital letter, small letter, digit or a special character**

**fun main() {**

**print("Enter any character : ")**

**var ch= readln()**

**if (ch>= "A" && ch<="Z")**

**{**

**print("It is a Capital letter ")**

**}**

**else if (ch>="a" && ch<="z")**

**{**

**println("It is a small letter ")**

**}**

**else if(ch.toFloatOrNull() != null)**

**{**

**println("It is a digit ")**

**}**

**else**

**{**

**println("It is a special character ")**

**}**

**}**

**48. Print 1 to 10**

**fun main() {**

**for ( i in 1..10)**

**{**

**print(" "+i)**

**}**

**}**

**49. Print 2 4 6 8 10**

**fun main() {**

**for ( i in 2..10 *step* 2)**

**{**

***print*(" "+i)**

**}**

**}**

**50. Print 1 3 5 7 9**

**fun main() {**

**for ( i in 1..10 step 2)**

**{**

**print(" "+i)**

**}**

**}**

**51. Print 1 2 4 8 16 32 64 128 256 512 1024**

**fun main() {**

**var i=1**

***print*(i)**

**while (i < 1024)**

**{**

**i=i\*2;**

***print*(" "+i)**

**}**

**}**

**52. Print 10 to 1**

**fun main() {**

**for ( i in 10 downTo 1 )**

**{**

***print*(" "+i)**

**}**

**}**

**53. Print 1 10 2 9 3 8 4 7 5 6**

**fun main() {**

**var i=1**

**var j=10**

**while (i<=5)**

**{**

**print("${i}")**

**print(" $j ")**

**i++**

**j--**

**}**

**}**

**54. Print 1 2 3 5 6 7 9 -\_ \_ \_ n**

**fun main() {**

**var count =0;**

**var i =1;**

**while(i<10)**

**{**

**if (i%4==0)**

**{**

**i++**

**}**

**print("$i ");**

**i++**

**}**

**}**

**55. Input and number display table of that number**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt();**

**if (num>0)**

**{**

**for (i in 1..10)**

**{**

**println("$num x $i = ${num\*i}")**

**}**

**}**

**}**

**56. Print series of 1/1, 1/2, 1/3, \_ \_ \_ 1/N**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt();**

**var i =1;**

**while (i<=num)**

**{**

**print("1/$i ,")**

**i++**

**}**

**}**

**57. Print series of 1/2, 2/3, 3/4, 4/5, \_ \_ \_ N/N+1**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var i=1**

**while (i<=num)**

**{**

**print("$i/${i+1} ")**

**i++**

**}**

**}**

**58. Print series 1 + 4 – 9 + 16 – 25 + 36 + \_ \_ \_ + N2**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var i=1**

**while (i<=num)**

**{**

**print("${i\*i} ")**

**i++**

**}**

**}**

**59. Print 0 1 1 2 3 5 8 13 21 34 55 (Fibonacci)**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var i=0**

**var j=1**

**print("$i ")**

**print("$j")**

**var k=0;**

**for (l in 1..num )**

**{**

**k=i+j;**

**print(" "+k)**

**i=j;**

**j=k;**

**}**

**}**

**60. Print factorial value of given number**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**print("Factorial of $num is : ")**

**for (i in 1..num)**

**{**

**if(num%i == 0)**

**{**

**print("$i ")**

**}**

**}**

**}**

**61. Check whether the number is prime or not**

**fun main() {**

**print("Enter a number : ")**

**var num= readLine()!!.toInt();**

**var count =0;**

**for (i in 1..num)**

**{**

**if(num%i==0)**

**{**

**count++**

**}**

**}**

**if(count ==2)**

**{**

**print("$num is a prime number ")**

**}**

**else**

**{**

**print("$num is not a prime number")**

**}**

**}**

**62. Print prime number between given range**

**fun main() {**

**print("Enter a starting point : ")**

**var num= readLine()!!.toInt();print("Enter a ending point : ")**

**var num2 = readLine()!!.toInt()**

**var flag=false;**

**for (i in num .. num2)**

**{**

**flag=true;**

**for(j in 2 until i)**

**{**

**if(i%j == 0)**

**{**

**flag=false**

**break;**

**}**

**}**

**if(flag)**

**{**

**print("$i ")**

**}**

**}**

**}**

**63. Write program that display square, cubes and factorials of all integer from 1 to 10**

**fun main() {**

**for(i in 1..10)**

**{**

**println("Square of $i is : ${i\*i}")**

**println("Cube of $i is : ${i\*i\*i}")**

**print("factor of $i is : ")**

**for (j in 1..i)**

**{**

**if(i%j == 0){**

**print("$j")**

**}**

**}**

**println()**

**}**

**}**

**64. Display sum of digit**

**fun main() {**

**print("Enter first number : ")**

**var num = readLine()!!.toFloat();**

**print("Enter second number : ")**

**var num1 = readLine()!!.toFloat()**

**println("Sum of the digits is :${num+num1}")**

**}**

**65. Display reverse number**

**fun main() {**

***print*("Enter a number : ")**

**var num = *readln*().*toInt*()**

**var temp=num;**

**var reverse=0**

**while (temp>0)**

**{**

**var rem=temp%10;**

**reverse=(reverse\*10)+rem;**

**temp/=10**

**}**

***println*("The reverse number is : $reverse")**

**}**

**66. Check entered number is Armstrong or not**

**fun main() {**

***print*("Enter a number : ")**

**var num = *readLine*()!!.*toInt*()**

**var temp=num;**

**var armstrong=0**

**while (temp>0)**

**{**

**var rem=temp%10;**

**armstrong+=(rem\*rem\*rem);**

**temp/=10**

**}**

**if(armstrong==num) {**

***println*("The given number $num is armstrong ")**

**}**

**else**

**{**

***println*("The given number $num is not an armstrong number ")**

**}**

**}**

**67. Check entered number is palindrome or not**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var temp=num;**

**var reverse=0**

**while (temp>0)**

**{**

**var rem=temp%10;**

**reverse=(reverse\*10)+rem;**

**temp/=10**

**}**

**if(num == reverse)**

**{**

**println("The given number $num is palindrome.")**

**}**

**else**

**{**

**println("The given number $num is not palindrome.")**

**}**

**}**

**68. Count odd and even digits from given number**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var temp=num;**

**var even=0;**

**var odd=0**

**while (temp>0)**

**{**

**var rem=temp%10;**

**if(rem%2==0)**

**{**

**even++**

**}**

**else{**

**odd++**

**}**

**temp/=10**

**}**

**println("The given number $num has $even even digits and $odd odd digits")**

**}**

**69. Accept number and find how many zeros are there**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var temp=num;**

**var count=0**

**while (temp>0)**

**{**

**var rem=temp%10;**

**if(rem==0)**

**{**

**count++**

**}**

**temp/=10**

**}**

**println("The given number $num has $count zeros")**

**}**

**70. Count digits of given number**

**fun main() {**

**print("Enter a number : ")**

**var num = readLine()!!.toInt()**

**var temp=num;**

**var count=0**

**while (temp>0)**

**{**

**temp%10;**

**count++**

**temp/=10**

**}**

**println("The given number $num has $count digits")**

**}**

**//71 Patterns**

**//Pattern 1**

**//1 2 3 4 5**

**//1 2 3 4 5**

**//1 2 3 4 5**

**//1 2 3 4 5**

**//1 2 3 4 5**

**fun main(){**

**for (i in 1..5) {**

**for(j in 1 .. 5)**

**{**

**print("$j ")**

**}**

**println("")**

**}**

**println()**

**}**

**//Pattern 2**

**//1 1 1 1 1**

**//2 2 2 2 2**

**//3 3 3 3 3**

**//4 4 4 4 4**

**//5 5 5 5 5**

**fun main(){**

**for (i in 1..5) {**

**for(j in 1 .. 5)**

**{**

**print("$i ")**

**}**

**println("")**

**}**

**println()**

**}**

**//Pattern 3**

**//1 2 3 4 5**

**//6 7 8 9 10**

**//11 12 13 14 15**

**//16 17 18 19 20**

**//21 22 23 24 25**

**fun main(){**

**var num=1**

**for (i in 1..5) {**

**for(j in 1 .. 5)**

**{**

**print("$num ")**

**num++**

**}**

**println(" ")**

**}**

**println()**

**}**

**//Pattern 5**

**//1 2 3 4 5**

**//$ 2 3 4 5**

**//$ $ 3 4 5**

**//$ $ $ 4 5**

**//$ $ $ $ 5**

**fun main() {**

**for (i in 1..5) {**

**for (j in 1 until i) {**

**print("$ ")**

**}**

**for (j in i..5) {**

**print("$j ")**

**}**

**println()**

**}**

**}**

**//Pattern 6**

**//1 $ $ $ $**

**//2 2 $ $ $**

**//3 3 3 $ $**

**//4 4 4 4 $**

**//5 5 5 5 5**

**fun main() {**

**for (i in 1..5) {**

**for (j in 1..5) {**

**if (j <= i) {**

**print("$i ")**

**} else {**

**print("$ ")**

**}**

**}**

**println()**

**}**

**}**

**//Pattern 7**

**//X 0 0 0 0**

**//X X 0 0 0**

**//X X X 0 0**

**//X X X X 0**

**//X X X X X**

**fun main() {**

**for (i in 1..5) {**

**for (j in 1..5) {**

**if (j <= i) {**

**print("X ")**

**} else {**

**print("0 ")**

**}**

**}**

**println()**

**}**

**}**

**// Pattern 8**

**//\* \* \* \* \***

**//\* \***

**//\* \***

**//\* \***

**//\* \* \* \* \***

**fun main(){**

**for( i in 1 .. 5 ){**

**for( j in 1.. 5){**

**if(i==1 || j==1 || i==5 || j==5 ) {**

**print("\* ")**

**}**

**else{**

**print(" ")**

**}**

**}**

**println()**

**}**

**}**

**//Pattern 9**

**//1**

**//2 2**

**//3 3 3**

**//4 4 4 4**

**//5 5 5 5 5**

**fun main(){**

**for (i in 1..5) {**

**for(j in 1 .. i)**

**{**

**print("$i ")**

**}**

**println("")**

**}**

**println()**

**}**

**//Pattern 10**

**//1**

**//1 2**

**//1 2 3**

**//1 2 3 4**

**//1 2 3 4 5**

**fun main(){**

**for (i in 1 ..5) {**

**for(j in 1 .. i)**

**{**

**print("$j ")**

**}**

**println("")**

**}**

**println()**

**}**

**//Pattern 11**

**//5**

**//5 4**

**//5 4 3**

**//5 4 3 2**

**//5 4 3 2 1**

**fun main(){**

**for (i in 1 ..5) {**

**var num = 5**

**for(j in 1 .. i)**

**{**

**print("$num ")**

**num--**

**}**

**println("")**

**}**

**println()**

**}**

**//Pattern 12**

**//1**

**//2 1**

**//3 2 1**

**//4 3 2 1**

**//5 4 3 2 1**

**fun main() {**

**for (i in 1..5) {**

**for (j in i downTo 1) {**

**print("$j ")**

**}**

**println()**

**}**

**}**

**Pattern 13**

**//1**

**//2 3**

**//4 5 6**

**//7 8 9 10**

**//11 12 13 14 15**

**fun main() {**

**var number = 1**

**for (i in 1..5) {**

**for (j in 1..i) {**

**print("$number ")**

**number++**

**}**

**println()**

**}**

**}**

**//Pattern 14**

**//1**

**//0 1**

**//0 1 0**

**//1 0 1 0**

**//1 0 1 0 1**

**fun main() {**

**for (i in 1..5) {**

**for (j in 1..i) {**

**if ((i + j) % 2 == 0) {**

**print("1 ")**

**} else {**

**print("0 ")**

**}**

**}**

**println()**

**}**

**}**

**//Pattern 15**

**//1**

**//1 0**

**//1 0 1**

**//1 0 1 0**

**//1 0 1 0 1**

**fun main() {**

**for (i in 1..5) {**

**for (j in 0 until i) {**

**if (j % 2 == 0) {**

**print("1 ")**

**} else {**

**print("0 ")**

**}**

**}**

**println()**

**}**

**}**

**// Pattern 16**

**//A**

**//B C**

**//D E F**

**//G H I J**

**//K L M N O**

**fun main() {**

**var char = 'A'**

**for (i in 1..5) {**

**for (j in 1..i) {**

**print("$char ")**

**char++**

**}**

**println()**

**}**

**}**

**//Pattern 17**

**// \***

**// \* \***

**// \* \* \***

**// \* \* \* \***

**// \* \* \* \* \***

**fun main(){**

**for (i in 1..5) {**

**for (j in 1..5 - i) {**

**print(" ")**

**}**

**for (k in 1..i) {**

**print("\* ")**

**}**

**println()**

**}**

**println()**

**}**

**//Pattern 18**

**//\* \* \* \* \***

**//\* \* \* \***

**//\* \* \***

**//\* \***

**//\***

**fun main(){**

**for (i in 5 downTo 1) {**

**for (j in 1..i) {**

**print("\* ")**

**}**

**println()**

**}**

**println()**

**}**

**// Pattern 19**

**// \***

**// \* \***

**// \* \* \***

**// \* \* \* \***

**// \* \* \* \* \***

**fun main(){**

**for (i in 1..5) {**

**for(j in 1 .. 5-i){**

**print(" ")**

**}**

**for(k in 1 .. i) {**

**print("\* ")**

**}**

**println(" ")**

**}**

**}**