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

**fun main()**

**{**

**val myName = "Jainish"**

**val myCollegeName = "AtmiyaUniversity"**

***println*(myName)**

***println*(myCollegeName)**

**}**

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

**fun main()**

**{**

**val addrName = " Vruj "**

**val myAddress = "Jilla Garden, flat no: A4-404 "**

***println*(addrName)**

***println*(myAddress)**

**}**

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

**fun main()**

**{**

**val a=100**

**val b=60**

**val add = a+b**

***println*("Add: $a + $b = $add")**

**val sub = a-b**

***println*("Sub: $a - $b = $sub")**

**val multiply = a\*b**

***println*("Multiply: $a \* $b = $multiply")**

**val division = a/b**

***println*("Division: $a / $b = $division")**

**val modulus = a%b**

***println*("Modulus: $a % $b = $modulus")**

**}**

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

**fun main() {**

**val principal = 10000.0**

**val rate = 5.5**

**val time = 2.0**

**val simpleInterest = (principal \* rate \* time) / 100**

***println*("Principal amount: \$${principal}")**

***println*("Rate of interest: ${rate}% per annum")**

***println*("Time period: ${time} years")**

***println*("Simple Interest: \$${simpleInterest}")**

**}**

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

**fun main() {**

**val principalAmount = 10000**

***println*("Principal amount is defined as: $principalAmount")**

**val interestRate = 5**

***println*("The rate of interest is defined as: $interestRate %")**

**val timePeriod = 3**

***println*("The time period is defined as: $timePeriod years")**

**val compoundInterest = principalAmount.toDouble() \* Math.pow((1 + interestRate.toDouble()/100.00),timePeriod.toDouble())- principalAmount**

***println*(" Compound Interest is: $compoundInterest")**

**}**

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

**fun main() {**

**val salary = 50000.0**

**val bonus = *calculateBonus*(salary)**

***println*("The 10% bonus for a salary of $$salary is $$bonus")**

**}**

**fun calculateBonus(salary: Double): Double {**

**return salary \* 0.10**

**}**

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

**fun main(){**

**val kilometers = 5.0**

**val meters = *convertKmToMeters*(kilometers)**

***println*("$kilometers kilometers is equal to $meters meters")**

**}**

**fun convertKmToMeters(kilometers: Double):Double{**

**return kilometers \* 1000**

**}**

**8. The distance between two cities is input through keyboard. Write a program to convertand print**

**this distance in feet, meter, inch and centimeter.**

**fun main() {**

***println*("Enter the distance two cities in kilometers: ")**

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

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

**val feetConversion = distance \* 3280.84**

**val meterConversion = distance \* 1000**

**val inchConversion = distance \* 39370.1**

**val centimeterConversion = distance \* 100000**

***println*("feet: $feetConversion feet")**

***println*("meters: $meterConversion meters")**

***println*("inches: $inchConversion inches")**

***println*("centimeters: $centimeterConversion centimeters")**

**} else {**

***println*("Invalid input.")**

**}**

**}**

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

**fun main() {**

**val pi = 3.14**

**val radius = 5**

**val height = 10**

**val volume = pi \* radius \* radius \* height**

***println*("Volume of the cylinder is: $volume")**

**}**

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

**fun main() {**

**val base = 5**

**val height = 7**

**val area = 0.5 \* base \* height**

***println*("$base")**

***println*("$height")**

***println*("$area")**

**}**

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

**fun main() {**

**val length = 10**

**val width = 5**

**val area = length \* width**

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

***println*("area = $area")**

***println*("perimeter = $perimeter")**

**}**

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

**import kotlin.math.*PI***

**fun main() {**

**val radius = 8**

**val area = *PI* \* radius \* radius**

***println*("$radius")**

***println*("$area")**

**}**

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

**fun main() {**

**var a = 40**

**var b = 80**

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

***println*("a = $a")**

***println*("b = $b")**

**val temp = a**

**a = b**

**b = temp**

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

***println*("a = $a")**

***println*("b = $b")**

**}**

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

**fun main() {**

**var a = 70**

**var b = 30**

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

***println*("a = $a")**

***println*("b = $b")**

**a = a + b**

**b = a - b**

**a = a - b**

***println*("\nAfter swapping:")**

***println*("a = $a")**

***println*("b = $b")**

**}**

**15. Write a program to read the value of X and Y and print the result of following expression**

**(X+Y)/(X-Y)**

**import java.util.Scanner**

**fun main() {**

**val scanner = Scanner(System.*`in`*)**

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

**val x = scanner.nextDouble()**

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

**val y = scanner.nextDouble()**

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

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

**}**

**16. Write a program to read the value of X and Y and print the result of following**

**expression (X+Y)/2**

**fun main() {**

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

**val x = *readLine*()?.*toInt*() ?: 0**

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

**val y = *readLine*()?.*toInt*() ?: 0**

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

***println*("(X + Y) / 2 = $result")**

**}**

**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() {**

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

**val x = *readLine*()?.*toInt*() ?: 0**

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

**val y = *readLine*()?.*toInt*() ?: 0**

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

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

**}**

**18. Write a program to read the value of X and Y and print the result of following expression**

**3X2+2XY+3Y2.**

**import java.util.Scanner**

**fun main() {**

**val scanner = Scanner(System.*`in`*)**

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

**val X = scanner.nextDouble()**

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

**val Y = scanner.nextDouble()**

**val result = 3 \* X \* X + 2 \* X \* Y + 3 \* Y \* Y**

***println*("Result of the expression 3X^2 + 2XY + 3Y^2 is: $result")**

**}**

**19. Write a program to read the value of X and Y and print the result of following expression**

**(2X+3Y)/XY.**

**fun main() {**

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

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

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

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

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

***println*("Result = $result")**

**}**

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

**fun main() {**

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

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

**val result = if (number >= 0) {**

**-number**

**} else {**

**kotlin.math.*abs*(number)**

**}**

***println*("Converted result: $result")**

**}**

**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 1..5) {**

***print*("Enter number $i: ")**

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

**sum += number**

**}**

**val average = sum / 5**

***println*("Average = $average")**

**}**

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

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

**fun main() {**

***println*("Enter the Basic Salary:")**

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

**val ta = 0.04**

**val da = 0.30**

**val hra = 0.15**

**val tax = 0.03**

**val pf = 0.12**

**val Ta = basicSalary \* ta**

**val Da = basicSalary \* da**

**val Hra = basicSalary \* hra**

**val totalAllowances = ta + da + hra**

**val Tax = basicSalary \* tax**

**val Pf = basicSalary \* pf**

**val totalDeductions = tax + pf**

**val netSalary = basicSalary + totalAllowances - totalDeductions**

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

**}**

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

**fun main() {**

**val number1 = 88**

**val number2 = 54**

**val maxNumber = if (number1 > number2) {**

**number1**

**} else {**

**number2**

**}**

***println*("Maximum number $number1 and $number2 is: $maxNumber")**

**}**

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

**fun main() {**

**val number1 = 90**

**val number2 = 43**

**val minNumber = if (number1 < number2) {**

**number1**

**} else {**

**number2**

**}**

***println*("Minimum number $number1 and $number2 is: $minNumber")**

**}**

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

**fun main() {**

**val number1 = 20**

**val number2 = 9**

**val minNumber = if (number1 < number2) {**

**number1**

**} else {**

**number2**

**}**

**val maxNumber = if (number1 > number2) {**

**number1**

**} else {**

**number2**

**}**

***println*("numbers: $number1 and $number2")**

***println*("Minimum number: $minNumber")**

***println*("Maximum number: $maxNumber")**

**}**

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

**fun main() {**

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

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

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

***println*("$number is even.")**

**} else {**

***println*("$number is odd.")**

**}**

**}**

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

**fun main() {**

***println*("Enter a year:")**

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

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

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

**year % 400 == 0**

**} else {**

**true**

**}**

**} else {**

**false**

**}**

**if (isLeapYear) {**

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

**} else {**

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

**}**

**}**

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

**fun main() {**

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

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

**if (number % 5 == 0) {**

***println*("$number is divisible by 5.")**

**} else {**

***println*("$number 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 number = *readLine*()?.*toDoubleOrNull*()**

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

**when {**

**number > 0 -> *println*("The number is positive.")**

**number < 0 -> *println*("The number is negative.")**

**else -> *println*("The number is zero.")**

**}**

**} else {**

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

**}**

**}**

**30. Write a program input one integer number. Check whether number is equal to 10 ornot.**

**fun main() {**

**println("Please enter an integer number:")**

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

**if (number == null) {**

**println("Invalid input. Please enter a valid integer.")**

**} else if (number == 10) {**

**println("The number is equal to 10.")**

**} else {**

**println("The number 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 an integer number: ")**

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

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

**if (number in 0..100) {**

***println*("$number is between 0 and 100.")**

**} else {**

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

**}**

**}**

**}**

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

**fun main() {**

***println*("Enter an integer number:")**

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

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

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

**} else {**

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

**}**

**}**

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

**fun main() {**

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

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

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

**if (number > 50 && number < 200) {**

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

**} else {**

***println*("$number is not in the range ")**

**}**

**} else {**

***println*("Invalid input. Please enter a valid integer.")**

**}**

**}**

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

**fun main() {**

***println*("Enter an (1-7) to display the day of the week:")**

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

**val day = when (dayNumber) {**

**1 -> "Sunday"**

**2 -> "Monday"**

**3 -> "Tuesday"**

**4 -> "Wednesday"**

**5 -> "Thursday"**

**6 -> "Friday"**

**7 -> "Saturday"**

**else -> "Invalid day number entered"**

**}**

***println*("Day of the week: $day")**

**}**

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

**fun main() {**

***println*("Enter the month number (1-12): ")**

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

**if (monthNumber != null && monthNumber in 1..12) {**

**val monthName = when (monthNumber) {**

**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 -> "Invalid month number"**

**}**

***println*("Month name: $monthName")**

**} else {**

***println*("Invalid input. Please enter a valid month number")**

**}**

**}**

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

**fun main() {**

**val num1 = 11**

**val num2 = 46**

**val num3 = 20**

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

**num1**

**}**

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

**num2**

**}**

**else {**

**num3**

**}**

***println*("Maximum number is: $max")**

**}**

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

**fun main() {**

**val num1 = 30**

**val num2 = 19**

**val num3 = 55**

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

**num1**

**}**

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

**num2**

**}**

**else {**

**num3**

**}**

***println*("Minimum number is: $min")**

**}**

**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() {**

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

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

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

**val message = when {**

**age <= 5 -> "Kid"**

**age in 6..12 -> "Children"**

**age in 13..19 -> "Teenager"**

**age in 20..30 -> "Young"**

**age in 31..60 -> "Mid age group"**

**else -> "Old"**

**}**

***println*("Age $age belongs to: $message")**

**} else {**

***println*("Invalid input. Please enter a valid age.")**

**}**

**}**

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

**1 – Addition**

**2 – Subtraction**

**3 – Multiplication**

**4 – Division**

**5 – Exit**

**import java.util.Scanner**

**fun main() {**

**val scanner = Scanner(System.*`in`*)**

**while (true) {**

***println*("\nMenu:")**

***println*("1. Addition")**

***println*("2. Subtraction")**

***println*("3. Multiplication")**

***println*("4. Division")**

***println*("5. Exit")**

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

**val choice = scanner.nextInt()**

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

**break**

**}**

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

**val num1 = scanner.nextInt()**

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

**val num2 = scanner.nextInt()**

**when (choice) {**

**1 -> *println*("Result: ${num1 + num2}")**

**2 -> *println*("Result: ${num1 - num2}")**

**3 -> *println*("Result: ${num1 \* num2}")**

**4 -> {**

**if (num2 != 0) {**

***println*("Result: ${num1.toDouble() / num2}")**

**} else {**

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

**}**

**}**

**else -> *println*("Invalid choice. Please enter a number from 1 to5.")**

**}**

**}**

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

**}**

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

**fun main() {**

**val subjects = 5**

**val marks = IntArray(subjects)**

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

***print*("Enter marks for Subject ${i + 1}: ")**

**marks[i] = *readLine*()!!.*toInt*()**

**}**

**val total = marks.*sum*()**

**val average = total / subjects.toDouble()**

**val result = when {**

**average >= 80 -> "Distinction"**

**average >= 60 -> "First Class"**

**average >= 50 -> "Second Class"**

**average >= 40 -> "Pass Class"**

**else -> "Fail"**

**}**

***println*("\nTotal Marks: $total")**

***println*("Average Marks: %.2f".*format*(average))**

***println*("Result: $result")**

**}**

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

**fun main() {**

**val start = 1**

**val end = 100**

***println*("Numbers divisible by 3 but not divisible by 7:")**

**for (num in start..end) {**

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

***println*(num)**

**}**

**}**

**}**

**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() {**

***println*("Enter the bill amount:")**

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

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

**val discount = if (billAmount < 5000) {**

**billAmount \* 0.075**

**} else {**

**billAmount \* 0.11**

**}**

**val netPayable = billAmount - discount**

***println*("Bill Amount: \u20B9$billAmount")**

***println*("Discount Amount: \u20B9$discount")**

***println*("Net Payable Bill: \u20B9$netPayable")**

**} else {**

***println*("Invalid input. Please enter a valid numeric bill amount.")**

**}**

**}**

**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() {**

**val customerNumber: Int**

**val powerConsumed: Int**

**val rate: Double**

**val amount: Double**

***println*("Enter customer number:")**

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

***println*("Enter power consumed (in units):")**

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

**when {**

**powerConsumed in 0..200 -> {**

**rate = 0.50**

**amount = powerConsumed \* rate**

**}**

**powerConsumed in 201..400 -> {**

**rate = 0.65**

**amount = 100 + (powerConsumed - 200) \* rate**

**}**

**powerConsumed in 401..600 -> {**

**rate = 0.80**

**amount = 230 + (powerConsumed - 400) \* rate**

**}**

**powerConsumed >= 601 -> {**

**rate = 1.00**

**amount = 390 + (powerConsumed - 600) \* rate**

**}**

**else -> {**

***println*("Invalid power consumption value.")**

**return**

**}**

**}**

***println*("Customer $customerNumber needs to pay Rs. $amount")**

}

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

**import java.util.Scanner**

**fun main() {**

**val scanner = Scanner(System.*`in`*)**

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

**val inputString = scanner.nextLine()**

**val upperCaseString = inputString.*toUpperCase*()**

***println*("String in uppercase: $upperCaseString")**

**}**

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

**import java.util.Scanner**

**fun main() {**

**val scanner = Scanner(System.*`in`*)**

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

**val inputString = scanner.nextLine()**

**val lowerCaseString = inputString.*toLowerCase*()**

***println*("String in uppercase: $lowerCaseString")**

**}**

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

**fun main() {**

**val input = *readLine*()?.*trim*()?.*toLowerCase*()**

**if (input != null && input.length == 1) {**

**if (input in "aeiou") {**

***println*("$input is a vowel.")**

**} else if (input in "abcdefghijklmnopqrstuvwxyz") {**

***println*("$input is a consonant.")**

**} else {**

***println*("Invalid input. Please enter a single alphabet character.")**

**}**

**} else {**

***println*("Invalid input. Please enter a single alphabet character.")**

**}**

**}**

**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 a character: ")**

**val ch = *readLine*()!!.*first*()**

**when {**

**ch in 'A'..'Z' -> *println*("$ch is a capital letter.")**

**ch in 'a'..'z' -> *println*("$ch is a small letter.")**

**ch in '0'..'9' -> *println*("$ch is a digit.")**

**else -> *println*("$ch is a special character.")**

**}**

**}**

**48. Print 1 to 10.**

**fun main() {**

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

***println*(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..9 *step* 2) {**

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

**}**

**}**

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

**fun main() {**

**var number = 1**

***repeat*(11) {**

***print*("$number ")**

**number \*= 2**

**}**

**}**

**52. Print 10 to 1.**

**fun main() {**

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

***println*(i)**

**}**

**}**

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

**fun main() {**

**var i = 1**

**var j = 10**

**while (i <= 5 && j >= 6) {**

***print*("$i $j ")**

**i++**

**j--**

**}**

**}**

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

**fun main() {**

**val n = 10**

**var count = 0**

**var num = 1**

**while (count < n) {**

**if (num != 4 && num != 8) {**

***print*("$num ")**

**count++**

**}**

**num++**

**}**

**}**

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

**import java.util.Scanner**

**fun main() {**

**val scanner = Scanner(System.*`in`*)**

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

**val number = scanner.nextInt()**

***println*("Multiplication table of $number:")**

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

***println*("$number \* $i = ${number \* i}")**

**}**

**}**

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

**fun main() {**

**val N = 5**

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

***println*("1/$i")**

**}**

**}**

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

**fun main() {**

**val N = 10**

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

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

**}**

**}**

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

**fun main() {**

**val N = 7**

**var sign = 1**

**var num = 1**

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

**val term = sign \* num \* num**

***print*("$term ")**

**sign \*= -1**

**num++**

**}**

**}**

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

**fun main() {**

**val n = 11**

**var a = 0**

**var b = 1**

***print*("Fibonacci series: ")**

***repeat*(n) {**

***print*("$a ")**

**val sum = a + b**

**a = b**

**b = sum**

**}**

**}**

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

**fun main() {**

**val number = 5**

**var factorial = 1**

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

**factorial \*= i**

**}**

***println*("Factorial of $number = $factorial")**

**}**

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

**fun main() {**

**val number = 102**

**var isPrime = true**

**if (number <= 1) {**

**isPrime = false**

**} else {**

**for (i in 2 *until* number) {**

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

**isPrime = false**

**break**

**}**

**}**

**}**

**if (isPrime) {**

***println*("$number is a prime number.")**

**} else {**

***println*("$number is not a prime number.")**

**}**

**}**

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

**fun main() {**

**val start = 1**

**val end = 100**

***println*("Prime numbers between $start and $end are:")**

**for (num in start..end) {**

**if (*isPrime*(num)) {**

***println*(num)**

**}**

**}**

**}**

**fun isPrime(num: Int): Boolean {**

**if (num <= 1) {**

**return false**

**}**

**for (i in 2 *until* num) {**

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

**return false**

**}**

**}**

**return true**

**}**

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

**fun main() {**

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

**val square = i \* i**

**val cube = i \* i \* i**

**val factorial = *factorial*(i)**

***println*("Number: $i")**

***println*("Square: $square")**

***println*("Cube: $cube")**

***println*("Factorial: $factorial")**

***println*()**

**}**

**}**

**fun factorial(n: Int): Long {**

**var result = 1L**

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

**result \*= i**

**}**

**return result**

**}**

**64. Display sum of digit.**

**fun main() {**

**val number = 12345**

**var sum = 0**

**var n = number**

**while (n != 0) {**

**sum += n % 10**

**n /= 10**

**}**

***println*("Sum of digits of $number is: $sum")**

**}**

**65. Display reverse number.**

**fun main() {**

**val number = 12345**

**var reversed = 0**

**var original = number**

**while (original != 0) {**

**val digit = original % 10**

**reversed = reversed \* 10 + digit**

**original /= 10**

**}**

***println*("Original number: $number")**

***println*("Reversed number: $reversed")**

**}**

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

**fun main() {**

**fun isArmstrong(number: Int): Boolean {**

**val digits = number.toString().*map* { it.toString().*toInt*() }**

**val power = digits.size**

**val sumOfPowers = digits.*map* { Math.pow(it.toDouble(),**

**power.toDouble()).toInt() }.*sum*()**

**return sumOfPowers == number**

**}**

**val number = 600**

**if (isArmstrong(number)) {**

***println*("$number is an Armstrong number.")**

**} else {**

***println*("$number is not an Armstrong number.")**

**}**

**}**

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

**fun main() {**

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

**val input = *readLine*() ?: return**

**val number = input.*toIntOrNull*() ?: return**

**if (*isPalindrome*(number)) {**

***println*("$number is a palindrome.")**

**} else {**

***println*("$number is not a palindrome.")**

**}**

**}**

**fun isPalindrome(number: Int): Boolean {**

**val original = number.toString()**

**val reversed = original.*reversed*()**

**return original == reversed**

**}**

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

**fun main() {**

**val number = 1234567**

**var evenCount = 0**

**var oddCount = 0**

**var num = number**

**while (num != 0) {**

**val digit = num % 10**

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

**evenCount++**

**} else {**

**oddCount++**

**}**

**num /= 10**

**}**

***println*("Number of even digits: $evenCount")**

***println*("Number of odd digits: $oddCount")**

**}**

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

**fun main() {**

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

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

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

**val countZeros = number.toString().*count* { it == '0' }**

***println*("Number of zeros in $number: $countZeros")**

**} else {**

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

**}**

**}**

**70. Count digits of given number.**

**fun countDigits(number: Int): Int {**

**var count = 0**

**var num = number**

**if (num < 0) {**

**num = -num**

**}**

**while (num > 0) {**

**num /= 10**

**count++**

**}**

**return count**

**}**

**fun main() {**

**val number = 12345**

**val digitCount = *countDigits*(number)**

***println*("Number of digits in $number: $digitCount")**

**}**

**71.**

**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*()**

**}**

**}**

**72.**

**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*()**

**}**

**}**

**73.**

**1 2 3 4 5**

**2 4 6 8 10**

**3 6 9 12 15**

**4 8 12 16 20**

**5 10 15 20 25**

**fun main() {**

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

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

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

**}**

***println*()**

**}**

**}**

**74.**

**1 2 3 4 5**

**$ 2 3 4 5**

**$ $ 3 4 5**

**$ $ $ 4 5**

**$ $ $ $ 5**

**fun main() {**

**for (i in 0 *until* 5) {**

**for (j in 0 *until* 5) {**

**if (j < i) {**

***print*("$ ")**

**} else {**

***print*("${j + 1} ")**

**}**

**}**

***println*()**

**}**

**}**

**75.**

**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*()**

**}**

**}**

**76.**

**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 0 *until* 5) {**

**for (j in 0 *until* 5) {**

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

***print*("X ")**

**} else {**

***print*("0 ")**

**}**

**}**

***println*()**

**}**

**}**

**77.**

**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*()**

**}**

**}**

**78.**

**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*()**

**}**

**}**

**79.**

**5**

**5 4**

**5 4 3**

**5 4 3 2**

**5 4 3 2 1**

**fun main() {**

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

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

***print*("$j ")**

**}**

***println*()**

**}**

**}**

**80.**

**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*()**

**}**

**}**

**81.**

**1**

**0 1**

**0 1 0**

**1 0 1 0**

**1 0 1 0 1**

**fun main() {**

**for (i in 0 *until* 5) {**

**for (j in 0 *until* 5 - i - 1) {**

***print*(" ")**

**}**

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

***print*("${if (j % 2 == 0) 1 else 0} ")**

**}**

***println*()**

**}**

**}**

**82.**

**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 1..i) {**

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

***print*("0 ")**

**} else {**

***print*("1 ")**

**}**

**}**

***println*()**

**}**

**}**

**83.**

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**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**fun main() {**

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

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

***print*(" ")**

**}**

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

***print*("\*")**

**}**

***println*()**

**}**

**}**

**84.**

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

**\***

**fun main() {**

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

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

***print*("\* ")**

**}**

***println*()**

**}**

**}**

**85.**

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**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**fun main() {**

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

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

***print*(" ")**

**}**

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

***print*("\* ")**

**}**

***println*(" ")**

**}**

**}**

**86.**

**A A A A A**

**B B B B B**

**C C C C C**

**D D D D D**

**E E E E E**

**fun main() {**

**val rows = 5**

**val cols = 5**

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

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

***print*("${'A' + i} ")**

**}**

***println*()**

**}**

**}**

**87.**

**\* \* \* \* \***

**\* \***

**\* \***

**\* \***

**\* \* \* \* \***

**fun main() {**

**val rows = 5**

**val cols = 5**

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

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

**if (i == 0 || i == rows - 1 || j == 0 || j == cols - 1) {**

***print*("\* ")**

**} else {**

***print*(" ")**

**}**

**}**

***println*()**

**}**

**}**

**88.**

**1**

**2 1**

**3 2 1**

**4 3 2 1**

**5 4 3 2 1**

**fun main() {**

**val rows = 5**

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

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

***print*("$j ")**

**}**

***println*()**

**}**

**}**

**89.**

**A**

**B C**

**D E F**

**G H I J**

**K L M N O**

**fun main() {**

**val rows = 5**

**var currentChar = 'A'**

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

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

***print*("$currentChar ")**

**currentChar++**

**}**

***println*()**

**}**

**}**