**Conditional Loops**

1. Write a short program to find out if the given number is prime or not.

import java.util.Scanner;

public class PrimeNumberChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a number: ");

int number = scanner.nextInt();

scanner.close();

boolean isPrime = isPrime(number);

if (isPrime) {

System.out.println(number + " is a prime number.");

} else {

System.out.println(number + " is not a prime number.");

}

}

public static boolean isPrime(int number) {

if (number <= 1) {

return false;

}

for (int i = 2; i <= Math.sqrt(number); i++) {

if (number % i == 0) {

return false;

}

}

return true;

}

}

1. Take three numbers from the users and print the greatest number.

import java.util.Scanner;

public class GreatestNumberFinder {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the first number: ");

int number1 = scanner.nextInt();

System.out.print("Enter the second number: ");

int number2 = scanner.nextInt();

System.out.print("Enter the third number: ");

int number3 = scanner.nextInt();

scanner.close();

int maxNumber = findMax(number1, number2, number3);

System.out.println("The greatest number is: " + maxNumber);

}

public static int findMax(int num1, int num2, int num3) {

int max = num1;

if (num2 > max) {

max = num2;

}

if (num3 > max) {

max = num3;

}

return max;

}

}

1. Write a java program that keeps a number from the user and generates an integer between 1 and 7 and displays the name of the weekends.

import java.util.Scanner;

public class DayOfWeek {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a number (1-7): ");

int userInput = scanner.nextInt();

scanner.close();

String dayName = getDayName(userInput);

if (dayName != null) {

System.out.println("The day of the week is: " + dayName);

} else {

System.out.println("Invalid input. Please enter a number between 1 and 7.");

}

}

public static String getDayName(int dayNumber) {

String dayName = null;

switch (dayNumber) {

case 1:

dayName = "Sunday";

break;

case 2:

dayName = "Monday";

break;

case 3:

dayName = "Tuesday";

break;

case 4:

dayName = "Wednesday";

break;

case 5:

dayName = "Thursday";

break;

case 6:

dayName = "Friday";

break;

case 7:

dayName = "Saturday";

break;

}

return dayName;

}

}

1. Write a java program to find the number of days in a month

import java.util.Scanner;

public class DaysInMonth {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the month (1-12): ");

int month = scanner.nextInt();

System.out.print("Enter the year: ");

int year = scanner.nextInt();

scanner.close();

int daysInMonth = getDaysInMonth(month, year);

if (daysInMonth != -1) {

System.out.println("Number of days in the entered month: " + daysInMonth);

} else {

System.out.println("Invalid month input. Please enter a number between 1 and 12.");

}

}

public static int getDaysInMonth(int month, int year) {

if (month < 1 || month > 12) {

return -1; // Invalid month

}

int[] daysInMonth = {

0, // 0th index not used

31, // January

28, // February (default, not considering leap year)

31, // March

30, // April

31, // May

30, // June

31, // July

31, // August

30, // September

31, // October

30, // November

31 // December

};

if (month == 2 && isLeapYear(year)) {

return 29;

} else {

return daysInMonth[month];

}

}

public static boolean isLeapYear(int year) {

divisible by 400

return (year % 4 == 0 && year % 100 != 0) || (year % 400 == 0);

}

}

1. You are given an input and you are required to determine whether it is divisible by 3 or by 5 or by both 3 and 5. If the number is divisible by 3 print “foo”. If the number is divisible by 5 print “bar”. If the number is divisible by both 3 and 5 print “foobaar”. If the number is not divisible by 3 and 5, display the number itself.

import java.util.Scanner;

public class FooBar {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a number: ");

int number = scanner.nextInt();

scanner.close();

if (number % 3 == 0 && number % 5 == 0) {

System.out.println("foobar");

} else if (number % 3 == 0) {

System.out.println("foo");

} else if (number % 5 == 0) {

System.out.println("bar");

} else {

System.out.println(number);

}

}

}