**1.**Write a Java program that prints the current time in GMT.

Sol:

import java.util.Scanner;

public class program1 {

public static void main(String[] Strings) {

Scanner input = new Scanner(System.in);

System.out.print("Input the time zone offset to GMT: ");

long TimeZoneChange = input.nextInt();

long TotalMilliseconds = System.currentTimeMillis();

long TotalSeconds = TotalMilliseconds / 1000;

long CurrentSecond = TotalSeconds % 60;

long TotalMinutes = TotalSeconds / 60;

long CurrentMinute = TotalMinutes % 60;

long TotalHours = TotalMinutes / 60;

long CurrentHour = ((TotalHours + TimeZoneChange) % 24);

System.out.println("Current time is " + CurrentHour + ":" + CurrentMinute + ":" + CurrentSecond);

}

}

o/p

Input the time zone offset to GMT: 150

Current time is 11:53:14

**2.**Find the distance covered by considering initial velocity,final velocity and the time taken.

Sol

import java.util.Scanner;

public class program2

{

public static void main(String[] args)

{

Scanner input = new Scanner(System.in);

System.out.println("Enter the initial velocity in m/s");

double u= input.nextDouble();

System.out.println("Enter the final velocity m/s");

double v= input.nextDouble();

System.out.println("Enter the time in seconds");

double t = input.nextDouble();

double a = (u-v)/t;

double distance = ((u\*t)+(a\*(t\*t))/2);

System.out.println("the distance is" + distance);

}

}

o/p

Enter the initial velocity in m/s

20

Enter the final velocity m/s

25

Enter the time in seconds

8

the distance is140.0

**3.** Write a Java program that takes a decimal number as input and converts it to an integer. Handle any exceptions that may occur during the conversion.

Sol

import java.util.Scanner;

public class program3 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

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

double decimalNumber = scanner.nextDouble();

try {

int integerNumber = (int) decimalNumber;

System.out.println("Converted integer: " + integerNumber);

} catch (ArithmeticException e) {

System.out.println("Error: " + e.getMessage());

}

}

}

o/p

Enter a decimal number: 12.7

Converted integer: 12

**4.** Write a Java program to check if a given string is a palindrome.

Sol

import java.util.Scanner;

class program4

{

public static void main(String args[])

{

String str, rev = "";

Scanner sc = new Scanner(System.in);

System.out.println("Enter a string:");

str = sc.nextLine();

int length = str.length();

for ( int i = length - 1; i >= 0; i-- )

rev = rev + str.charAt(i);

if (str.equals(rev))

System.out.println(str+" is a palindrome");

else

System.out.println(str+" is not a palindrome");

}

}

o/p

Enter a string:

abba

abba is a palindrome

Enter a string:

Name

Name is not a palindrome

**5.** Write a Java program that takes a character as input and determines whether it is an uppercase letter, lowercase letter, digit, or a special character.

Sol

import java.util.Scanner;

public class program5 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Enter any caracter : ");

char ch = scanner.next().charAt(0);

if(ch >= 'A' && ch <= 'Z') {

System.out.println(ch + " is UPPERCASE alphabet.");

} else if(ch >= 'a' && ch <= 'z') {

System.out.println(ch + " is LOWERCASE alphabet.");

} else {

System.out.println(ch + " is not an alphabet.");

}

}

}

o/p

Enter any caracter :

U

U is UPPERCASE alphabet.

Enter any caracter :

b

b is LOWERCASE alphabet.

Enter any caracter :

\*

\* is not an alphabet.