MOTIONCUT INTERNSHIP JAVA PROGRAMMING WEEK2:

TASK:

Project Overview:

Your task is to design and build a link shortener application in Java. A link shortener takes long URLs and converts them into shorter, more user-friendly links. This project will enhance your Java programming skills and allow you to create a functional utility.

Project Details:

1. Shortening Algorithm: Develop an algorithm to convert long URLs into shorter links. You can choose from various methods, including base conversion, hashing, or encoding.

2. User Interface: Create a user-friendly interface for users to input long URLs and receive shortened links as output.

3. Short Link Storage: Implement a system to store the mappings between short links and their corresponding long URLs.

**Code:**

import java.util.HashMap;

import java.util.Scanner;

//import javax.swing.\*;

public class UrlShortener {

private HashMap<String, String> urlMap;

public UrlShortener() {

this.urlMap = new HashMap<>()

}

// Method to shorten a long URL

public String shortenUrl(String longUrl) {

String shortKey = generateShortKey(longUrl);

String shortUrl = "http://short.url/" + shortKey; // Replace with your desired short URL prefix

urlMap.put(shortKey, longUrl);

return shortUrl;

}

// Method to expand a short URL

public String expandUrl(String shortUrl) {

String shortKey = shortUrl.substring(shortUrl.lastIndexOf("/") + 1);

return urlMap.get(shortKey);

}

// Simple hash function for generating a short key

private String generateShortKey(String longUrl) {

// In a real-world scenario, you might want to use a proper hashing algorithm

int hash = longUrl.hashCode();

return Integer.toString(hash, Character.MAX\_RADIX);

}

public static void main(String[] args) {

UrlShortener urlShortener = new UrlShortener();

Scanner sc=new Scanner(System.in);

System.out.println("enter long URL:");

String longUrl=sc.next();

//String longUrl = "https://www.onlinegdb.com/online\_java\_compiler";

String shortUrl = urlShortener.shortenUrl(longUrl);

System.out.println("Shortened URL: " + shortUrl);

//String expandedUrl = urlShortener.expandUrl(shortUrl);

//System.out.println("Expanded URL: " + expandedUrl);

}

}

Output:

