ASSIGNMENT-01

# SUBMISSION BY

# JANNATUL FERDAUS OISHI

# 2022-3-60-216

# COURSE:CSE246

# SECTION:01

# SUBMITTED TO

# Dr. Taskeed Jabid Professor

# Department of Computer Science & Engineering

# SUBMISSION DATE

# 30 NOVEMBER,2024

QUESTION-01

|  |
| --- |
| #include <bits/stdc++.h>  using namespace std;  vector<vector<int>> dp(101, vector<int>(101, -1));  vector<vector<int>> trace(101, vector<int>(101, 0));  int lcs(string x, string y, int n, int m) {  if (n == 0 || m == 0) {  return 0;  }  if (dp[n][m] != -1) {  return dp[n][m];  }  if (x[n - 1] == y[m - 1]) {  trace[n][m] = 1;  return dp[n][m] = 1 + lcs(x, y, n - 1, m - 1);  } else {  if (lcs(x, y, n, m - 1) >= lcs(x, y, n - 1, m)) {  trace[n][m] = 2;  return dp[n][m] = lcs(x, y, n, m - 1);  } else {  trace[n][m] = 3;  return dp[n][m] = lcs(x, y, n - 1, m);  }  }  }  void trackback(string x, string y, int n, int m) {  if (n == 0 || m == 0) {  return;  }  if (trace[n][m] == 1) {  trackback(x, y, n - 1, m - 1);  cout << x[n - 1];  } else if (trace[n][m] == 2) {  trackback(x, y, n, m - 1);  } else if (trace[n][m] == 3) {  trackback(x, y, n - 1, m);  }  }  int main() {  string x, y;  cout << "Enter the first string: ";  cin >> x;  cout << "Enter the second string: ";  cin >> y;  int n = x.size();  int m = y.size();  cout << "Length of LCS: " << lcs(x, y, n, m) << endl;  cout << "LCS: ";  trackback(x, y, n, m);  cout << endl;  return 0;  } |
|  |

|  |
| --- |
| #include <bits/stdc++.h>  using namespace std;  vector<vector<int>> dp(101, vector<int>(101, 0));  int matrix\_multiplication(int n, vector<int>& a) {  for (int len = 2; len < n; len++) {  for (int row = 0; row < n - len; row++) {  int col = len;  dp[row][col] = INT\_MAX;  for (int k = row + 1; k < col; k++) {  dp[row][col] = min(  dp[row][col],  dp[row][k] + dp[k][col] + a[row] \* a[k] \* a[col]  );  }  }  }  return dp[0][n - 1];  }  int main() {  int n;  cout << "Enter the number of matrices: ";  cin >> n;  vector<int> arr(n);  cout << "Enter the dimensions array: ";  for (int i = 0; i < n; i++) {  cin >> arr[i];  }  int m = matrix\_multiplication(n, arr);  cout << "Minimum number of multiplications: "  << m << endl;  return 0;  } |
|  |