**14. Write an algorithm and program to implement Matrix-Chain Multiplication.**

#include <stdio.h>

int MatrixChainMultuplication(int arr[], int n) {

int minMul[n][n];

int j, q;

for (int i = 1; i < n; i++)

minMul[i][i] = 0;

for (int L = 2; L < n; L++) {

for (int i = 1; i < n - L + 1; i++) {

j = i + L - 1;

minMul[i][j] = 99999999;

for (int k = i; k <= j - 1; k++) {

q = minMul[i][k] + minMul[k + 1][j] + arr[i - 1] \* arr[k] \* arr[j];

if (q < minMul[i][j])

minMul[i][j] = q;

}

}

}

return minMul[1][n - 1];

}

int main(){

int arr[] = {3, 4, 5, 6, 7, 8};

int size = sizeof(arr) / sizeof(arr[0]);

printf("Minimum number of multiplications required for the matrices multiplication is %d ", MatrixChainMultuplication(arr, size));

getchar();

return 0;

}

