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**Section: 01**

**Ans#1**

#include <bits/stdc++.h>

int main()

{

int n,arr[50],j,Min,Min\_elemnt,i,k;

printf("Enter a Amount of Inputs: ");

scanf("%d",&n);

for (int i = 0; i < n; i++)

scanf("%d",&arr[i]);

int Matrix[n][n]= {0};

int x[n][n]= {0};

for(int l=1; l<n-1; l++)

{

for(i=1; i<n-l; i++)

{

j=i+l;

Min=INT\_MAX;

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

{

Min\_elemnt=Matrix[i][k]+Matrix[k+1][j]+arr[i-1]\*arr[k]\*arr[j];

if(Min\_elemnt<Min)

{

Min=Min\_elemnt;

x[i][j]=k;

}

}

Matrix[i][j]=Min;

//printf(" %d ",Matrix[i][j]);

}

}

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

{

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

{

printf("%d\t",Matrix[r][y]);

}

printf("\n ");

}

printf("\nCOST: %d", Matrix[1][n-1]);

}

**Ans#2**

Loop < n & j < m,

A[0][j] =0 and A[i][0] =A[i][m+1] =inf.

A[i][j] = C[i][j] + min{A[i-1][j-1],A[i-1][j],A[i-1][j+1]}

PrintBestPath (A, i,j){

if (i==0) OR (j=0) OR (j=m+1)

return;

if (A[i-1,j-1]<=A[i-1,j]) AND (A[i-1,j-1]<=A[i-1,j+1])

PrintBestPath(A, i-1, j-1);

else if (A[i-1,j]<=A[i-1,j-1]) AND (A[i-1,j]<=A[i-1,j+1])

PrintBestPath(A,i-1,j);

else if (A[i-1,j+1]<=A[i-1,j-1]) AND (A[i-1,j+1]<=A[i-1,j])

PrintBestPath(A, i-1, j+1);

print(i,j);

} end here