DAA LAB

A6-B3-42

Practical 06

Code :

#include <stdio.h>

#include <float.h>

#define MAX 100

int main() {

int n;

printf("Enter number of book IDs: ");

scanf("%d", &n);

int keys[MAX];

float p[MAX], q[MAX];

float e[MAX][MAX+1], w[MAX][MAX+1];

int i, j, k, l;

printf("Enter %d sorted book IDs: ", n);

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

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

printf("Enter %d probabilities of successful searches: ", n);

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

scanf("%f", &p[i]);

printf("Enter %d probabilities of unsuccessful searches: ", n+1);

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

scanf("%f", &q[i]);

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

e[i][i] = q[i];

w[i][i] = q[i];

}

for(l = 1; l <= n; l++) { // l is chain length

for(i = 0; i <= n-l; i++) {

j = i + l;

e[i][j] = FLT\_MAX;

w[i][j] = w[i][j-1] + p[j] + q[j];

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

float t = e[i][k-1] + e[k][j] + w[i][j];

if(t < e[i][j])

e[i][j] = t;

}

}

}

printf("Minimum expected search cost: %.4f\n", e[0][n]);

return 0;

}

Output : 

