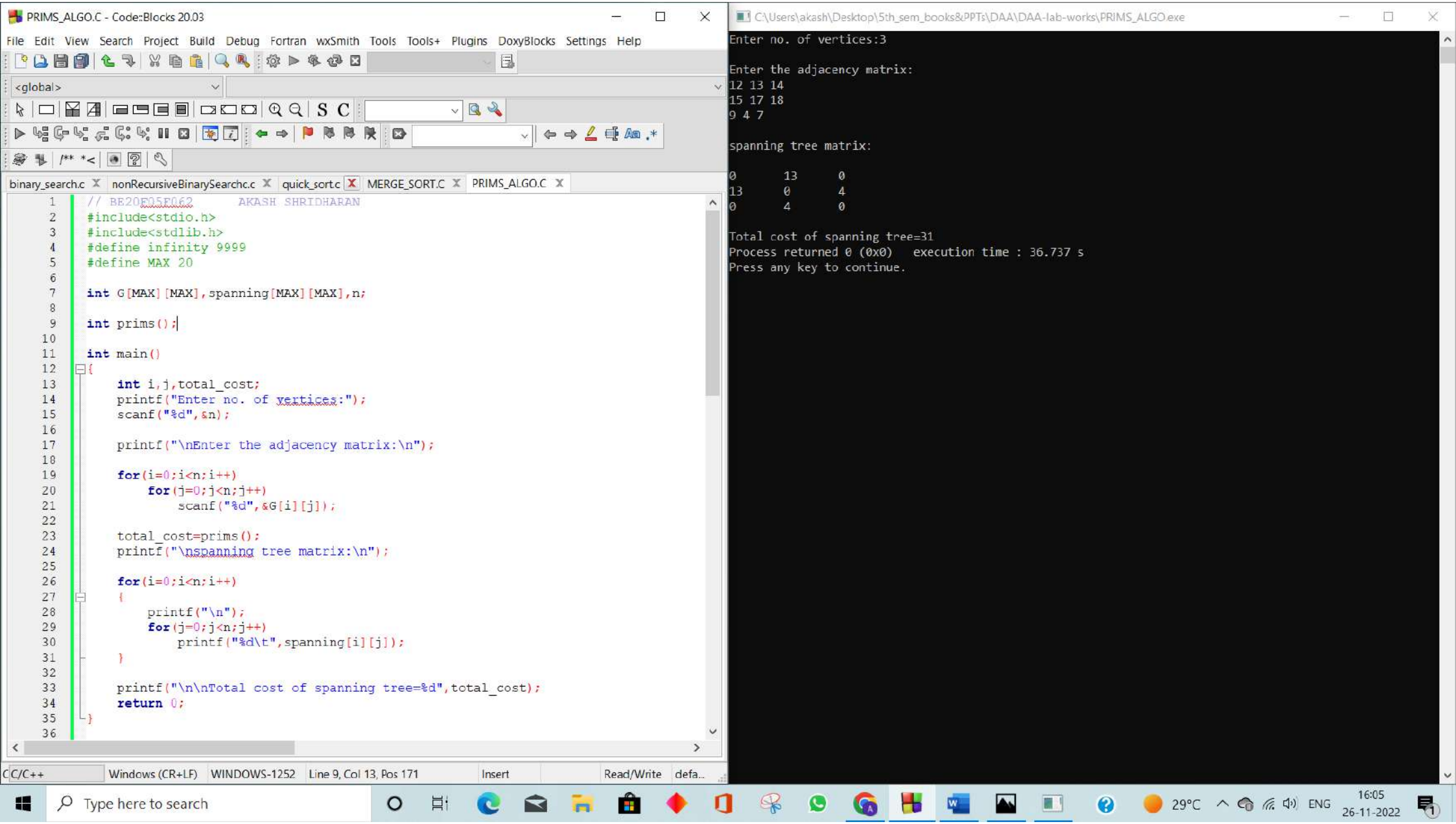
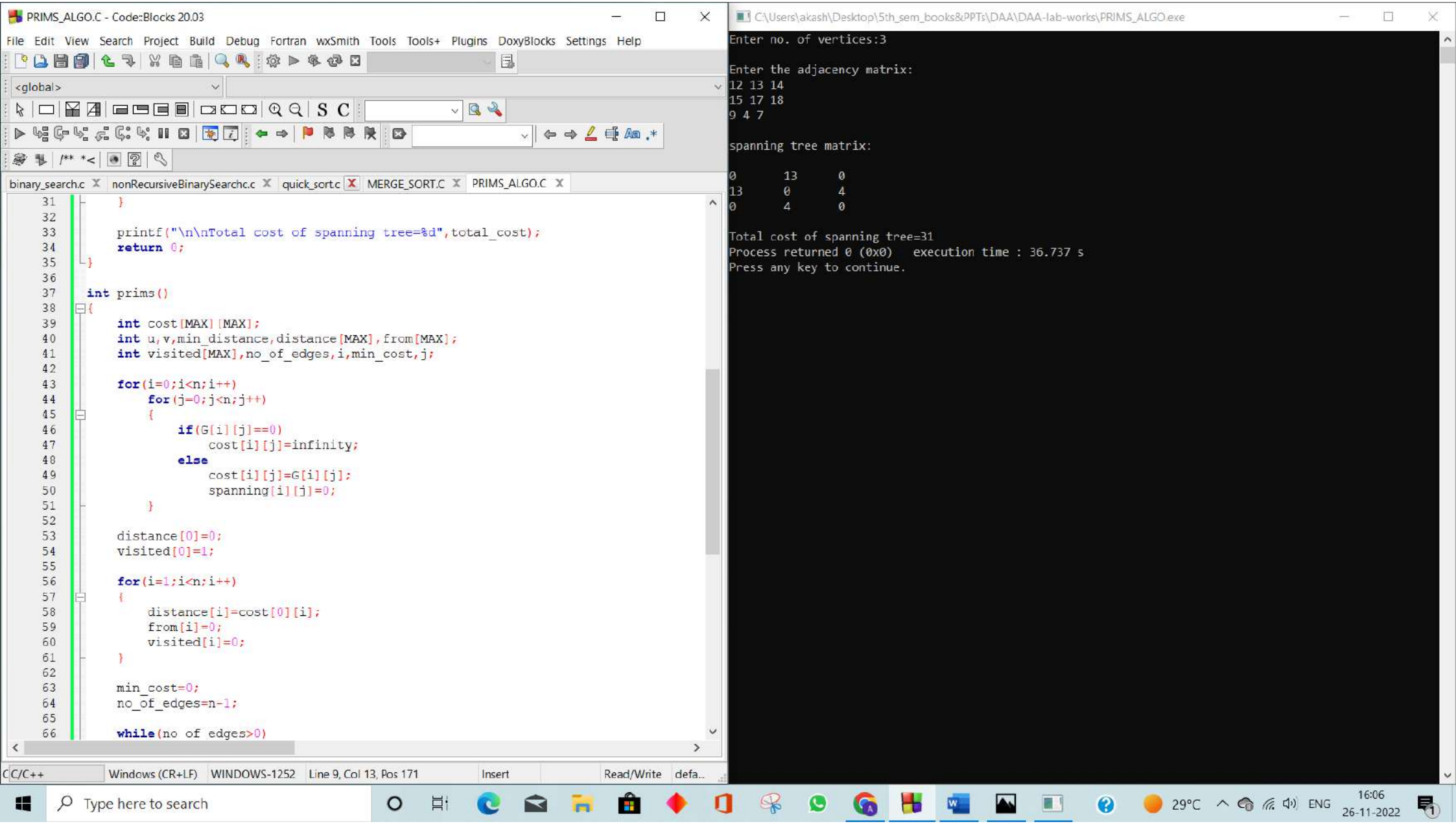
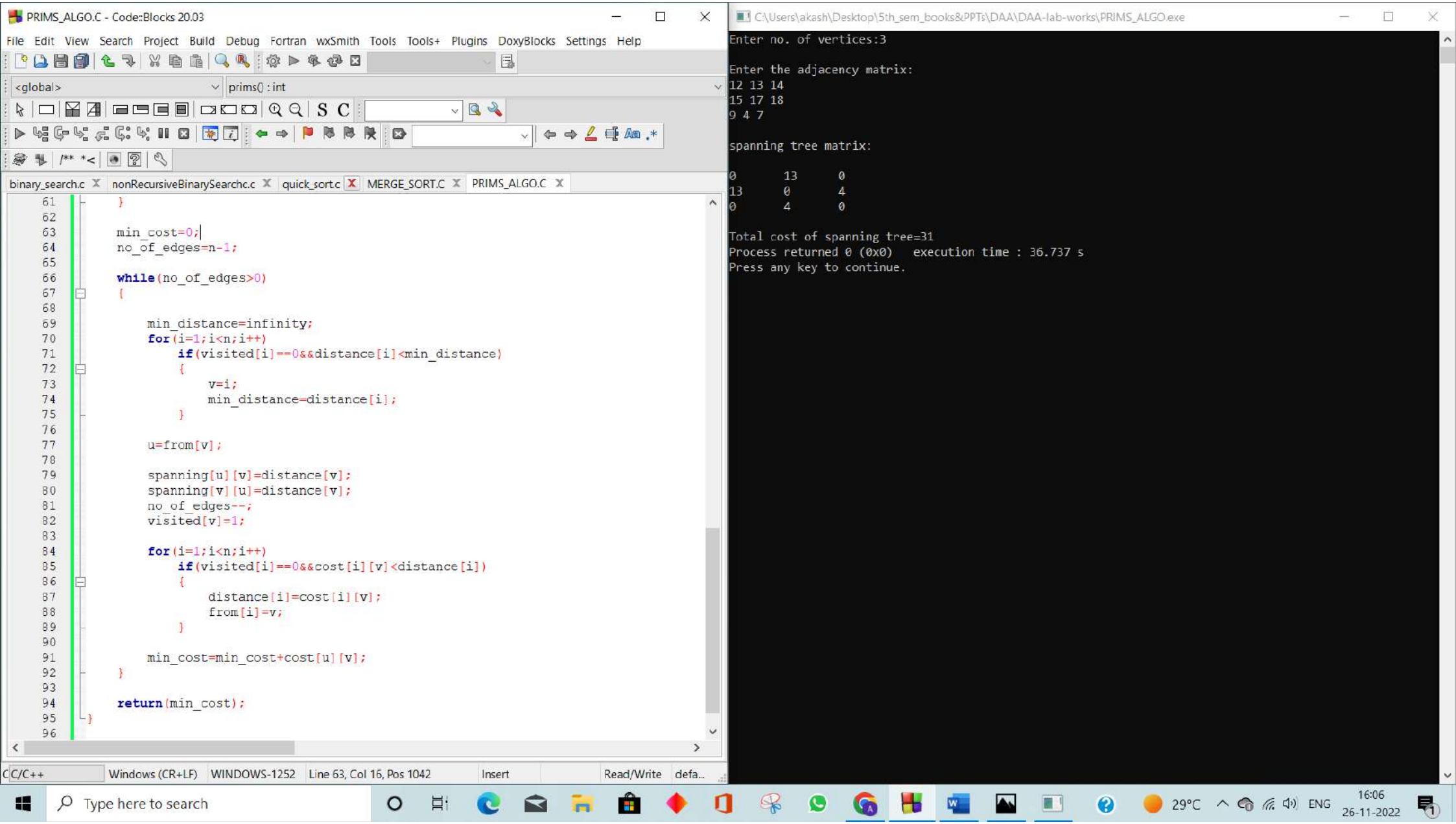

PRIMS_ALGO.C - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
binary_search.c nonRecursiveBinarySearch.c quick_sort.c MERGE_SORT.C PRIMS_ALGO.C
// BE20E05E062 AKASH SHRIDHARAN
#include<stdio.h>
#include<stdlib.h>
#define infinity 9999
#define MAX 20
int G[MAX][MAX],spanning[MAX][MAX],n;
int prims();
int main()
{
int i,j,total_cost;
printf("Enter no. of vertices:");
scanf("%d",&n);
printf("\nEnter the adjacency matrix:\n");
for(i=0;i<n;i++)
for(j=0;j<n;j++)
scanf("%d",&G[i][j]);
total_cost=prims();
printf("\nspanning tree matrix:\n");
for(i=0;i<n;i++)
{
printf("\n");
for(j=0;j<n;j++)
printf("%d\t",spanning[i][j]);
}
printf("\n\nTotal cost of spanning tree=%d",total_cost);
return 0;
}
C/C++ Windows (CR+LF) WINDOWS-1252 Line 9, Col 13, Pos 171 Insert Read/Write defa...
C:\Users\akash\Desktop\5th_sem_books&PPTs\DAA\DAA-lab-works\PRIMS_ALGO.exe
Enter no. of vertices:3
Enter the adjacency matrix:
12 13 14
15 17 18
9 4 7
spanning tree matrix:
0 13 0
13 0 4
0 4 0
Total cost of spanning tree=31
Process returned 0 (0x0) execution time : 36.737 s
Press any key to continue.
Type here to search
29°C
ENG
16:05
26-11-2022


PRIMS_ALGO.C - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
binary_search.c
nonRecursiveBinarySearch.c
quick_sort.c
MERGE_SORT.C
PRIMS_ALGO.C
}
printf("\n\nTotal cost of spanning tree=%d",total_cost);
return 0;
}
int prims()
{
int cost[MAX][MAX];
int u,v,min_distance,distance[MAX],from[MAX];
int visited[MAX],no_of_edges,i,min_cost,j;
for(i=0;i<n;i++)
for(j=0;j<n;j++)
{
if(G[i][j]==0)
cost[i][j]=infinity;
else
cost[i][j]=G[i][j];
spanning[i][j]=0;
}
distance[0]=0;
visited[0]=1;
for(i=1;i<n;i++)
{
distance[i]=cost[0][i];
from[i]=0;
visited[i]=0;
}
min_cost=0;
no_of_edges=n-1;
while(no of edges>0)
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 9, Col 13, Pos 171
Insert
Read/Write
defa...
C:\Users\akash\Desktop\5th_sem_books&PPTs\DAA\DAA-lab-works\PRIMS_ALGO.exe
Enter no. of vertices:3
Enter the adjacency matrix:
12 13 14
15 17 18
9 4 7
spanning tree matrix:
0 13 0
13 0 4
0 4 0
Total cost of spanning tree=31
Process returned 0 (0x0) execution time : 36.737 s
Press any key to continue.
Type here to search
29°C
ENG
16:06
26-11-2022


PRIMS_ALGO.C - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
prims() : int
binary_search.c
nonRecursiveBinarySearch.c
quick_sort.c
MERGE_SORT.C
PRIMS_ALGO.C
61 }
62
63 min_cost=0;
64 no_of_edges=n-1;
65
66 while(no_of_edges>0)
67 {
68
69 min_distance=infinity;
70 for(i=1;i<n;i++)
71 if(visited[i]==0&&distance[i]<min_distance)
72 {
73 v=i;
74 min_distance=distance[i];
75 }
76
77 u=from[v];
78
79 spanning[u][v]=distance[v];
80 spanning[v][u]=distance[v];
81 no_of_edges--;
82 visited[v]=1;
83
84 for(i=1;i<n;i++)
85 if(visited[i]==0&&cost[i][v]<distance[i])
86 {
87 distance[i]=cost[i][v];
88 from[i]=v;
89 }
90
91 min_cost=min_cost+cost[u][v];
92 }
93
94 return(min_cost);
95 }
96
C/C++ Windows (CR+LF) WINDOWS-1252 Line 63, Col 16, Pos 1042 Insert Read/Write defa...
C:\Users\akash\Desktop\5th_sem_books&PPTs\DAA\DAA-lab-works\PRIMS_ALGO.exe
Enter no. of vertices:3
Enter the adjacency matrix:
12 13 14
15 17 18
9 4 7
spanning tree matrix:
0 13 0
13 0 4
0 4 0
Total cost of spanning tree=31
Process returned 0 (0x0) execution time : 36.737 s
Press any key to continue.
Type here to search
29°C
ENG
16:06
26-11-2022