

```

1  #include<stdio.h>
2  #include<stdlib.h>
3
4  int a[20][20], visited[20], q[20], n, i, j, f = 0, r = -1;
5
6  void bfs(int v)
7  {
8      for(i = 1; i <= n; i++){
9          if(a[v][i] && !visited[i])
10             q[++r] = i;
11      }
12      if(f <= r)
13      {
14          visited[q[f]] = 1;
15          bfs(q[f++]);
16      }
17  }
18
19  int main()
20  {
21      int v;
22      printf("enter the number of vertices:");
23      scanf("%d", &n);
24
25      for(i=1;i<=n;i++)
26      {
27          q[i] = 0;
28          visited[i]=0;
29      }
30
31      printf("enter the graph data in matrix form:");
32      for(i=1;i<=n;i++){
33          for(j=1;j<=n;j++)
34              scanf("%d", &a[i][j]);
35      }
36
37      printf("enter the starting vertex:");
38      scanf("%d", &v);
39      bfs(v);
40  }
  
```

```

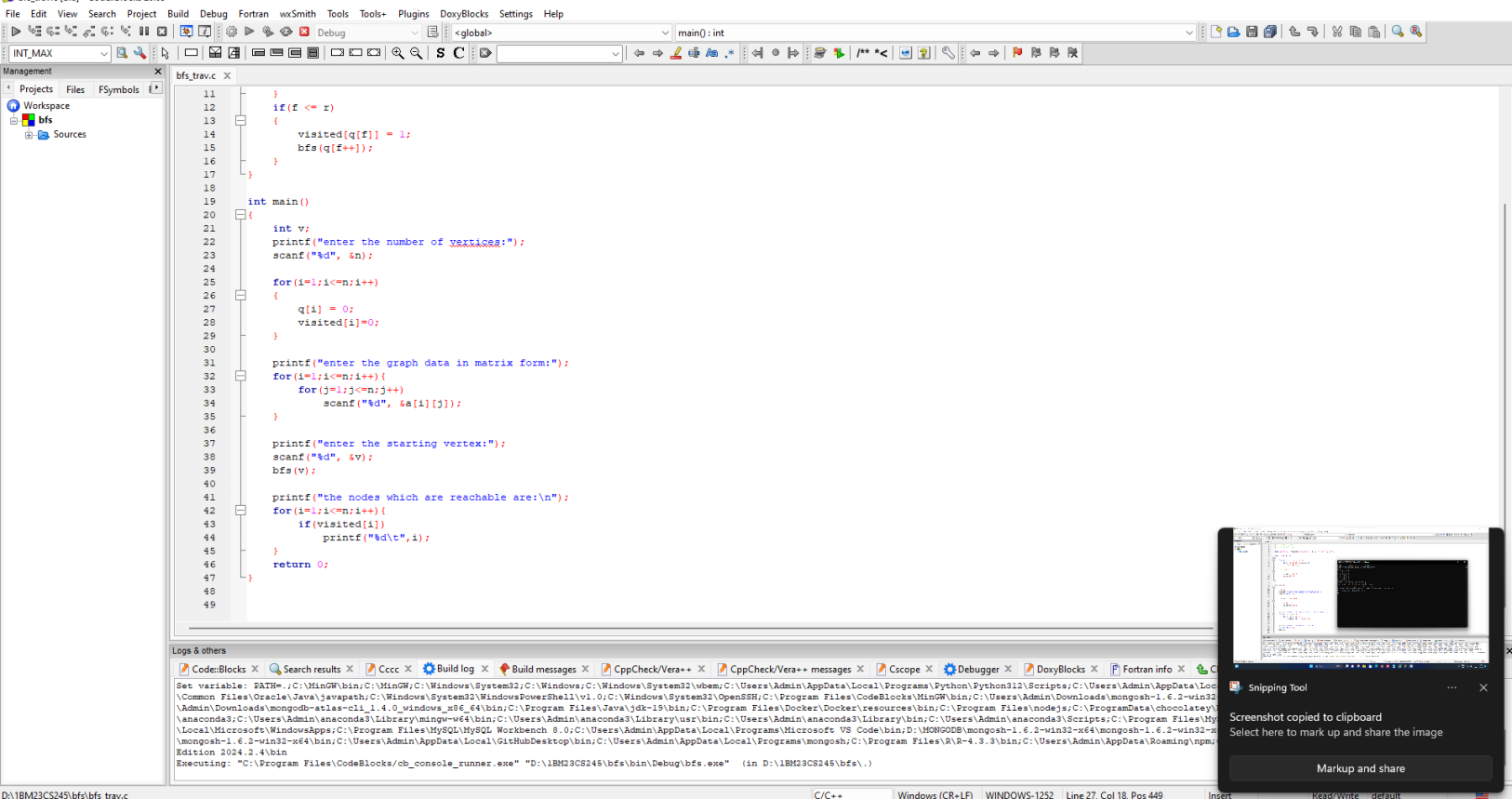
D:\IBM23CS245\bfs\bin\Debug\bfs.exe
enter the number of vertices:6
enter the graph data in matrix form:
0 1 1 1 0
1 0 0 1 0 0
1 0 0 1 1 0
1 1 1 0 0 0
1 0 1 0 0 0
0 0 0 0 0 0
enter the starting vertex:4
the nodes which are reachable are:
1      2      3      4      5
Process returned 0 (0x0)   execution time : 54.491 s
Press any key to continue.
  
```

Logs & others

Code::Blocks x Search results x Cccc x Build log x Build messages x CppCheck/Vera++ x CppCheck/Vera++ messages x Cscope x Debugger x DoxyBlocks x Fortran info x Closed files list x Thread search x

Set variable: PATH=.;C:\MinGW\bin;C:\MinGW\bin\Windows\System32;C:\Windows\System32\wbem;C:\Users\Admin\AppData\Local\Programs\Python\Python312\Scripts;C:\Users\Admin\AppData\Local\Programs\Python\Python312;C:\Program Files\Common Files\Oracle\Java\javapath;C:\Windows\System32\OpenSSH;C:\Program Files\CodeBlocks\MingW\bin;C:\Users\Admin\Downloads\mongosh-1.6.2-win32-x64\bin;C:\Users\Admin\Downloads\mongosh-1.6.2-win32-x64\bin;C:\Program Files\Java\jdk-19\bin;C:\Program Files\Docker\Docker\resources\bin;C:\Program Files\nodejs\C\ProgramData\chocolatey\bin;C:\Program Files\Git\cmd;C:\Users\Admin\Anaconda3\bin;C:\Users\Admin\Anaconda3\Library\usr\bin;C:\Users\Admin\Anaconda3\Library\bin;C:\Users\Admin\Anaconda3\Scripts;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\Admin\AppData\Local\Microsoft\WindowsApps;C:\Program Files\MySQL\MySQL Workbench 8.0\C\Users\Admin\AppData\Local\Programs\Microsoft VS Code\bin;D:\MONGODB\mongosh-1.6.2-win32-x64\bin;D:\MONGODB\mongosh-1.6.2-win32-x64\bin;C:\Users\Admin\AppData\Local\GitHubDesktop\bin;C:\Users\Admin\AppData\Local\Programs\mongosh;C:\Program Files\R\R-4.3.3\bin;C:\Users\Admin\AppData\Roaming\npm;C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.4\bin

Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "D:\IBM23CS245\bfs\bin\Debug\bfs.exe" (in D:\IBM23CS245\bfs\..)



```
11 }
12 if(f <= r)
13 {
14     visited[q[f]] = 1;
15     bfs(q[f++]);
16 }
17 }
18
19 int main()
20 {
21     int v;
22     printf("enter the number of vertices:");
23     scanf("%d", &n);
24
25     for(i=1;i<=n;i++)
26     {
27         q[i] = 0;
28         visited[i]=0;
29     }
30
31     printf("enter the graph data in matrix form:");
32     for(i=1;i<=n;i++){
33         for(j=1;j<=n;j++)
34             scanf("%d", &a[i][j]);
35     }
36
37     printf("enter the starting vertex:");
38     scanf("%d", &v);
39     bfs(v);
40
41     printf("the nodes which are reachable are:\n");
42     for(i=1;i<=n;i++){
43         if(visited[i])
44             printf("%d\t", i);
45     }
46     return 0;
47 }
48
49
```

Logs & others

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Set variable: PATH=C:\MinGW\bin;C:\Windows\System32;C:\Windows\System32\wbem;C:\Users\Admin\AppData\Local\Programs\Python\Python312\Scripts;C:\Users\Admin\AppData\Local\Common Files\Oracle\Java\javapath;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files\CodeBlocks\MinGW\bin;C:\Users\Admin\Downloads\mongosh-1.6.2-win32-x64\bin;C:\Program Files\Java\jdk-19\bin;C:\Program Files\Docker\Docker\resources\bin;C:\Program Files\nodejs\bin;C:\ProgramData\chocolatey\bin;C:\Users\Admin\anaconda3\Library\mingw-w64\bin;C:\Users\Admin\anaconda3\Library\usr\bin;C:\Users\Admin\anaconda3\Library\bin;C:\Users\Admin\anaconda3\Scripts;C:\Program Files\Microsoft\WindowsApps\bin;C:\Program Files\MySQL\MySQL Workbench 8.0\bin;C:\Users\Admin\AppData\Local\Programs\Microsoft VS Code\bin;D:\MONGO\mongosh-1.6.2-win32-x64\bin;C:\Users\Admin\AppData\Local\GitHubDesktop\bin;C:\Users\Admin\AppData\Local\Programs\mongosh\bin;C:\Program Files\R\R-4.3.3\bin;C:\Users\Admin\AppData\Roaming\npm;C:\Program Files\CodeBlocks\cb_console_runner.exe

Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "D:\1BM23CS245\bfs\bin\Debug\bfs.exe" (in D:\1BM23CS245\bfs\..)

