

DWITE '11 R5 #2 - Forest Fires

Time limit: 1.0s **Memory limit:** 64M

DWITE Online Computer Programming Contest, December 2010, Problem 4

Forest fires are really dangerous, and can be started by even the smallest flame. Spreading from tree to tree, fires can engulf an entire forest in a matter of weeks. Given a map of a forest with locations of where a fire (or multiple fires) might have started, determine how long it would take the fire to capture the entire forest.

The input will contain 5 test cases, each a 10×10 map, followed by a line of 10 dashes for visual separation.

- - blank space
- T - a tree
- F - a tree on fire

Fires only spread from existing fire to adjacent trees, in 4 directions (so not diagonally). It takes 1 unit of time for the fire to spread from one location to the next. The fire spreads in all 4 directions at the same time.

The output will contain 5 lines, the time it takes for the fire to capture the entire forest. If some piece of the forest survives, output -1 .

Sample Input

```
.....
.....
.....
.....
..TTTTT...
..F...F...
.....
.....
.....
.....
-----
.....
.....
.....
...TT.TT..
...F.....
.....
.....
.....
.....
.....
-----
```

Sample Output

```
3
-1
```

Problem Resource: [DWITE](#)