Linnea Caraballo

Professor Pinto

CS 341

Project 2

1. Let N = {array of cut vertices}

Check if there is another vertex attached to it.

Let A be the adjacent vertex of some element n from N.

Initialize: P <- N(1)

Loop: While J neq length(N):

Do P <- N(J)

Is the degree of P == 1? If deg(P) == 1 then the edge between P and A is a bridge.

Else the edge is not a bridge.

A B



C D



E F G H

Adjacency Matrix

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G | H |
| A | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| B | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| D | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| E | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| F | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| G | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| H | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Adjacency Vector

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| A | B | C | E | 0 | 0 |
| B | A | C | D | F | G |
| C | A | B | E | F | 0 |
| D | B | G | 0 | 0 | 0 |
| E | A | C | F | 0 | 0 |
| F | B | C | E | 0 | 0 |
| G | B | D | 0 | 0 | 0 |
| H | 0 | 0 | 0 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| A | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| C | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| E | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| G | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| H | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |