

Actividad 3.4b Implementación de "Graph coloring"

Curso: TC2038

Grupo: 601

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Casos de Prueba

Caso 1

Entrada:

Nodos: 5

Matriz de adyacencias:

0 0 1 0 1

0 0 1 1 1

1 1 0 1 0

0 1 1 0 1

1 1 0 1 0

Salida:

```
Enter the number of nodes: 5
Enter adjacency for node 0: 0 0 1 0 1
Enter adjacency for node 1: 0 0 1 1 1
Enter adjacency for node 2: 1 1 0 1 0
Enter adjacency for node 3: 0 1 1 0 1
Enter adjacency for node 4: 1 1 0 1 0
The minimum number of colors required is: 3
Coloring assignment:
Node 0 → Color 0
Node 1 → Color 0
Node 2 → Color 1
Node 3 → Color 2
Node 4 → Color 1
```

Caso 2

Entrada:

Nodos: 4

Matriz de adyacencias:

0 1 0 0

1 0 1 0

0 1 0 1

0 0 1 0

Salida:

```
Enter the number of nodes: 4
Enter adjacency for node 0: 0 1 0 0
Enter adjacency for node 1: 1 0 1 0
Enter adjacency for node 2: 0 1 0 1
Enter adjacency for node 3: 0 0 1 0
The minimum number of colors required is: 2
Coloring assignment:
Node 0 → Color 0
Node 1 → Color 1
Node 2 → Color 0
Node 3 → Color 1
```

Caso 3

Entrada:

Nodos: 5

Matriz de adyacencias:

0 1 1 0 0

1 0 0 1 0

1 0 0 0 1

0 1 0 0 1

0 0 1 1 0

Salida:

```
Enter the number of nodes: 5
Enter adjacency for node 0: 0 1 1 0 0
Enter adjacency for node 1: 1 0 0 1 0
Enter adjacency for node 2: 1 0 0 0 1
Enter adjacency for node 3: 0 1 0 0 1
Enter adjacency for node 4: 0 0 1 1 0
The minimum number of colors required is: 3
Coloring assignment:
Node 0 → Color 0
Node 1 → Color 1
Node 2 → Color 1
Node 3 → Color 0
Node 4 → Color 2
```

Caso 4

Entrada:

Nodos: 8

Matriz de adyacencias:

0 1 1 0 0 0 1 0

1 0 0 0 1 0 0 1

1 0 0 0 1 0 0 0

0 0 0 0 0 1 1 0

0 1 1 0 0 0 0 0

0 0 0 1 0 0 0 1

1 0 0 1 0 0 0 1

0 1 0 0 0 1 1 0

Salida:

```
Enter the number of nodes: 8
Enter adjacency for node 0: 0 1 1 0 0 0 1 0
Enter adjacency for node 1: 1 0 0 0 1 0 0 1
Enter adjacency for node 2: 1 0 0 0 1 0 0 0
Enter adjacency for node 3: 0 0 0 0 0 1 1 0
Enter adjacency for node 4: 0 1 1 0 0 0 0 0
Enter adjacency for node 5: 0 0 0 1 0 0 0 1
Enter adjacency for node 6: 1 0 0 1 0 0 0 1
Enter adjacency for node 7: 0 1 0 0 0 1 1 0
The minimum number of colors required is: 2
Coloring assignment:
Node 0 → Color 0
Node 1 → Color 1
Node 2 → Color 1
Node 3 → Color 0
Node 4 → Color 0
Node 5 → Color 1
Node 6 → Color 1
Node 7 → Color 0
```

