1. ¿Qué algoritmo se puede aplicar para calcular el costo mínimo para ir desde la antena 1 hasta la antena 7?

Se puede aplicar el Algoritmo de Dijkstra o el de Floyd

1. Muestre el árbol de caminos mínimos desde la antena 1 hacia todas las demás.

* Tabla inicial

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 0 |
| 2 | ∞ | 0 | 0 |
| 3 | ∞ | 0 | 0 |
| 4 | ∞ | 0 | 0 |
| 5 | ∞ | 0 | 0 |
| 6 | ∞ | 0 | 0 |
| 7 | ∞ | 0 | 0 |

* Selecciono Vértice 1
* Actualizo distancia de 2, 3, 4, 5 y 7.

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 0 |
| 3 | 2 | 1 | 0 |
| 4 | 6 | 1 | 0 |
| 5 | 9 | 1 | 0 |
| 6 | ∞ | 0 | 0 |
| 7 | 8 | 1 | 0 |

* Selecciono Vértice 3
* Actualizo distancia de 5.

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 0 |
| 3 | 2 | 1 | 1 |
| 4 | 6 | 1 | 0 |
| 5 | 8 | 3 | 0 |
| 6 | ∞ | 0 | 0 |
| 7 | 8 | 1 | 0 |

* Selecciono vértice 4
* No se actualiza nada

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 0 |
| 3 | 2 | 1 | 1 |
| 4 | 6 | 1 | 1 |
| 5 | 8 | 3 | 0 |
| 6 | ∞ | 0 | 0 |
| 7 | 8 | 1 | 0 |

* Selecciono vértice 2
* No se actualiza nada

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 1 |
| 3 | 2 | 1 | 1 |
| 4 | 6 | 1 | 1 |
| 5 | 8 | 3 | 0 |
| 6 | ∞ | 0 | 0 |
| 7 | 8 | 1 | 0 |

* Selecciono vértice 5
* Actualizo distancia 6

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 1 |
| 3 | 2 | 1 | 1 |
| 4 | 6 | 1 | 1 |
| 5 | 8 | 3 | 1 |
| 6 | 11 | 5 | 0 |
| 7 | 8 | 1 | 0 |

* Selecciono vértice 7
* Actualizo distancia 6

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 1 |
| 3 | 2 | 1 | 1 |
| 4 | 6 | 1 | 1 |
| 5 | 8 | 3 | 1 |
| 6 | 10 | 7 | 0 |
| 7 | 8 | 1 | 1 |

* Selecciono vértice 6
* No se actualiza nada

|  |  |  |  |
| --- | --- | --- | --- |
| V | DV | PV | Conocido |
| 1 | 0 | 0 | 1 |
| 2 | 7 | 1 | 1 |
| 3 | 2 | 1 | 1 |
| 4 | 6 | 1 | 1 |
| 5 | 8 | 3 | 1 |
| 6 | 10 | 7 | 1 |
| 7 | 8 | 1 | 1 |

6

2

8

6

7

2