Para el siguiente grafo:



* 1. Encuentre (paso a paso) los costos mínimos de los caminos que parten del vértice **A** usando el algoritmo de Dijkstra

Iteración 1:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 2:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***G*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 3:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 4:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 5:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 6:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 7:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Iteración 8:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vértice** | **Seleccionados** |  | ***A*** | ***B*** | ***C*** | ***D*** | ***E*** | ***F*** | ***G*** | ***H*** | ***I*** |
|  |  | Costo |  |  |  |  |  |  |  |  |  |
| Anterior: |  |  |  |  |  |  |  |  |  |

Respuesta:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Iteración | Vértice | Seleccionados | Costo | Anterior |
| 1 | A | X | 0 | - |
| 2 | B | - | - | 5 |
| 3 | C | - | - | 16 |
| 4 | D | - | - | 8 |
| 5 | E | - | - | 21 |
| 6 | F | - | - | 14 |
| 7 | G | - | - | 9 |
| 8 | H | - | - | 10 |
| 9 | I | - | - | 10 |

* 1. ¿Cuál es el camino entre el vértice A y el vértice I y cuánto es el costo de tal camino, de acuerdo con el algoritmo de Dijkstra?

Camino mínimo de A a I:

A -> B -> C -> F -> G -> H -> I

Costo mínimo:

53