**Вариант №1**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1.По данной таблице смежности построить орграф | | | | | | | | | | 2.Представить данный граф таблицей смежности |
|  |  | **1** | **2** | **3** | **4** | **5** | **6** | **7** |  |  |
| **1** | 2 | 1 | 1 | 0 | 1 | 0 | 1 |
| **2** | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| **3** | 1 | 1 | 2 | 2 | 1 | 0 | 0 |
| **4** | 0 | 1 | 2 | 0 | 0 | 0 | 2 |
| **5** | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| **6** | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| **7** | 0 | 1 | 0 | 2 | 0 | 1 | 0 |
|  |  |  |  |  |  |  |  |  |  |

3.Дана таблица инциденций для ориентированного графа, в которой ребра обозначены:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E1, E2, E3…, а вершины–V1,V2…, числом«-1»обозначена «стартовая» точка ребра, a «1» - конечная. **Обозначая ребра стрелками, построить граф.** |  | **E1** | **E2** | **E3** | **E4** | **E5** | **E6** | **E7** | **E8** | **E9** | **E10** | **E11** |
| **V1** | -1 | -1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| **V2** | 0 | 1 | 1 | 0 | -1 | -1 | 0 | 1 | 0 | 0 | -1 |
| **V3** | 1 | 0 | 0 | 0 | 0 | 0 | 1 | -1 | 0 | -1 | 1 |
| **V4** | 0 | 0 | -1 | 1 | 0 | 0 | -1 | 0 | 1 | 0 | 0 |
| **V5** | 0 | 0 | 0 | -1 | 0 | 1 | 0 | 0 | -1 | 0 | 0 |

**Вариант №2**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1.По данной таблице смежности построить орграф | | | | | | | | | | 2.Представить данный граф таблицей смежности |
|  |  | **1** | **2** | **3** | **4** | **5** | **6** | **7** |  |  |
| **1** | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| **2** | 1 | 0 | 2 | 1 | 0 | 0 | 1 |
| **3** | 1 | 1 | 2 | 1 | 0 | 0 | 1 |
| **4** | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| **5** | 0 | 2 | 0 | 1 | 4 | 0 | 0 |
| **6** | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7** | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |

3.Дана таблица инциденций для ориентированного графа, в которой ребра обозначены:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E1, E2, E3…, а вершины–V1,V2…, числом«-1»обозначена «стартовая» точка ребра, a «1» - конечная. **Обозначая ребра стрелками, построить граф.** |  | **E1** | **E2** | **E3** | **E4** | **E5** | **E6** | **E7** | **E8** | **E9** | **E10** | **E11** |
| **V1** | -1 | -1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| **V2** | 0 | 1 | 1 | 0 | -1 | -1 | 0 | 1 | 0 | 0 | -1 |
| **V3** | 1 | 0 | 0 | 0 | 0 | 0 | 1 | -1 | 0 | -1 | 1 |
| **V4** | 0 | 0 | -1 | 1 | 0 | 0 | -1 | 0 | 1 | 0 | 0 |
| **V5** | 0 | 0 | 0 | -1 | 0 | 1 | 0 | 0 | -1 | 0 | 0 |