1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| w | p |  | W=6 |  |
| 2 | 16 |  |  |  |
| 3 | 12 |  |  |  |
| 4 | 20 |  |  |  |
| 2 | 14 |  |  |  |
|  |  |  |  |  |
| y | f0(y) | 16+f0(y-2) | f1(y) | xi |
| 0 | 0 | -inf | 0 | (0,0,0,0) |
| 1 | 0 | -inf | 0 | (0,0,0,0) |
| 2 | 0 | 16 | 16 | (1,0,0,0) |
| 3 | 0 | 16 | 16 | (1,0,0,0) |
| 4 | 0 | 16 | 16 | (1,0,0,0) |
| 5 | 0 | 16 | 16 | (1,0,0,0) |
| 6 | 0 | 16 | 16 | (1,0,0,0) |
|  |  |  |  |  |
| y | f1(y) | 12+f1(y-3) | f2(y) | xi |
| 0 | 0 | -inf | 0 | (0,0,0,0) |
| 1 | 0 | -inf | 0 | (0,0,0,0) |
| 2 | 16 | -inf | 16 | (1,0,0,0) |
| 3 | 16 | 12 | 16 | (1,0,0,0) |
| 4 | 16 | 12 | 16 | (1,0,0,0) |
| 5 | 16 | 28 | 28 | (1,1,0,0) |
| 6 | 16 | 28 | 28 | (1,1,0,0) |
|  |  |  |  |  |
| y | f2(y) | 20+f2(y-4) | f3(y) | xi |
| 0 | 0 | -inf | 0 | (0,0,0,0) |
| 1 | 0 | -inf | 0 | (0,0,0,0) |
| 2 | 16 | -inf | 16 | (1,0,0,0) |
| 3 | 16 | -inf | 16 | (1,0,0,0) |
| 4 | 16 | 20 | 20 | (0,0,1,0) |
| 5 | 28 | 20 | 28 | (1,1,0,0) |
| 6 | 28 | 36 | **36** | **(1,0,1,0)** |
|  |  |  |  |  |
| y | f3(y) | 14+f3(y-2) | f4(y) | xi |
| 0 | 0 | -inf | 0 | (0,0,0,0) |
| 1 | 0 | -inf | 0 | (0,0,0,0) |
| 2 | 16 | 14 | 16 | (1,0,0,0) |
| 3 | 16 | 14 | 16 | (1,0,0,0) |
| 4 | 20 | 30 | 30 | (1,0,0,1) |
| 5 | 28 | 30 | 30 | (1,0,0,1) |
| 6 | 36 | 34 | **36** | **(1,0,1,0)** |

Solusi optimum dengan profit = 36 dengan kombinasi barang yang dibawa adalah (1,0,1,0)

2.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 5 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 6 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 7 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |

|  |  |
| --- | --- |
| Solusi |  |
| 1 | 1 |
| 2 | 1 |
| 3 | 2 |
| 4 | 1 |
| 5 | 3 |
| 6 | 3 |
| 7 | 4 |

A picture containing indoor, wire, metal, rack

Description automatically generated

Chart

Description automatically generated

Diagram

Description automatically generated

3.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ac,bd tidak ada jalur | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - | 11 | - | 7 |  | - | 11 | - | 7 |  | - | 4 | - | 0 |  | - | 4 | - | 0 |  |  |
| 10 | - | 12 | - |  | 10 | - | 12 | - |  | 10 | - | 12 | - |  | 0 | - | 2 | - |  |  |
| 9 | 13 | - | 11 |  | 9 | 13 | - | 11 |  | 9 | 13 | - | 11 |  | 9 | 13 | - | 11 |  |  |
| 12 | 8 | 10 | - |  | 12 | 8 | 10 | - |  | 12 | 8 | 10 | - |  | 12 | 8 | 10 | - |  |  |
|  |  |  |  |  |  | R=7 | |  |  |  | R=7+10 | |  |  |  | R=7+10+9 | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | - | 4 | - | 0 |  | - | 4 | - | 0 |  | - | 4 | - | 0 |  |  |
|  |  |  |  |  | 0 | - | 2 | - |  | 0 | - | 2 | - |  | 0 | - | 2 | - |  |  |
|  |  |  |  |  | 0 | 4 | - | 2 |  | 0 | 4 | - | 2 |  | 0 | 4 | - | 2 |  |  |
|  |  |  |  |  | 12 | 8 | 10 | - |  | 4 | 0 | 2 | - |  | 4 | 0 | 2 | - |  |  |
|  |  |  |  |  |  | R=7+10+9+8 | | |  |  | R=7+10+9+8 | | |  |  | R=7+10+9+8 | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | - | 4 | - | 0 |  | - | 4 | - | 0 |  | - | 4 | - | 0 |  |  |
|  |  |  |  |  | 0 | - | 2 | - |  | 0 | - | 2 | - |  | 0 | - | 0 | - |  |  |
|  |  |  |  |  | 0 | 4 | - | 2 |  | 0 | 4 | - | 2 |  | 0 | 4 | - | 2 |  |  |
|  |  |  |  |  | 4 | 0 | 2 | - |  | 4 | 0 | 2 | - |  | 4 | 0 | 0 | - |  |  |
|  |  |  |  |  |  | R=7+10+9+8 | | |  |  | R=7+10+9+8+2 | | | |  | R=7+10+9+8+2 | | | |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | A | row | 1 |  |  | A | row | 1 |  |  |  |  |  |  |  |  |
| RCM Node 1 | | |  |  | B | col | 2 |  |  | B | col | 2 |  |  |  |  |  |  |  |  |
| - | 4 | - | 0 |  | - | - | - | - |  | - | - | - | - |  |  |  |  |  |  |  |
| 0 | - | 0 | - |  | - | - | 0 | - |  | - | - | 0 | - |  |  |  |  |  |  |  |
| 0 | 4 | - | 2 |  | 0 | - | - | 2 |  | 0 | - | - | 0 |  |  |  |  |  |  |  |
| 4 | 0 | 0 | - |  | 4 | - | 0 | - |  | 4 | - | 0 | - |  |  |  |  |  |  |  |
| b= | 36 |  |  |  |  | b=36+2 | |  |  |  | b=36+2 | |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | b= | 38 | +4 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | b= | 42 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | A | row | 1 |  |  | A | row | 1 |  |  |  |  |  |  |  |  |
| RCM Node 1 | | |  |  | C | col | 3 |  |  | C | col | 3 |  |  |  |  |  |  |  |  |
| - | 4 | - | 0 |  | - | - | - | - |  | - | - | - | - |  |  |  |  |  |  |  |
| 0 | - | 0 | - |  | 0 | - | - | - |  | 0 | - | - | - |  |  |  |  |  |  |  |
| 0 | 4 | - | 2 |  | - | 4 | - | 2 |  | - | 4 | - | 0 |  |  |  |  |  |  |  |
| 4 | 0 | 0 | - |  | 4 | 0 | - | - |  | 4 | 0 | - | - |  |  |  |  |  |  |  |
| b= | 36 |  |  |  |  | b=36+2 | |  |  |  | b=36+2 | |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | b= | 38 | +- | tidak ada jalur | | | |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | b= | 38 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | **A** | row | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RCM Node 1 | | |  |  | **D** | col | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - | 4 | - | 0 |  | - | - | - | - |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | - | 0 | - |  | 0 | - | 0 | - |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 4 | - | 2 |  | 0 | 4 | - | - |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | 0 | 0 | - |  | - | 0 | 0 | - |  |  |  |  |  |  |  |  |  |  |  |  |
| b= | 36 |  |  |  | b= | 36 | +0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | **b=** | **36** | **min** | |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | **D** | row | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RCM AD | |  |  |  | **B** | col | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - | - | - | - |  | - | - | - | - |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | - | 0 | - |  | 0 | - | 0 | - |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 4 | - | - |  | 0 | - | - | - |  |  |  |  |  |  |  |  |  |  |  |  |
| - | 0 | 0 | - |  | - | - | 0 | - |  |  |  |  |  |  |  |  |  |  |  |  |
| b=36 | |  |  |  |  | **b=** | **36** | **min** | |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Solusi TSP | | |  |  |  |  |  | A | B | C | D |  |  |  |  |  |  |  |  |  |
| Lintasan yang dihasilkan | | | | | |  | A | - | 11 | - | 7 |  |  |  |  |  |  |  |  |  |
| AD | 7 |  |  |  |  |  | B | 10 | - | 12 | - |  |  |  |  |  |  |  |  |  |
| DB | 8 |  |  |  |  |  | C | 9 | 13 | - | 11 |  |  |  |  |  |  |  |  |  |
| BC | 12 |  |  |  |  |  | D | 12 | 8 | 10 | - |  |  |  |  |  |  |  |  |  |
| CA | 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Sum** | **36** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |