Assignment #2

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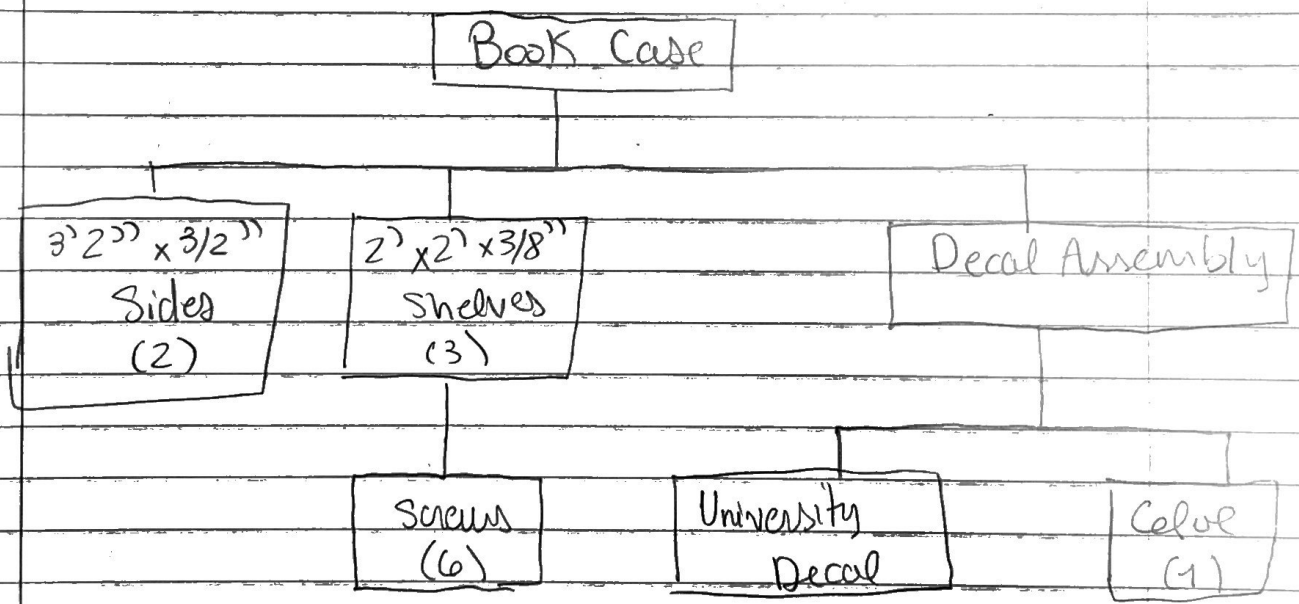
#1

Bill of Materials

No	Material	Type	Qty
1	Sides	3'2" x 2' x 3/2"	2
2	Shelves	2' x 2' x 3/8"	3
3	Screws		18
4	University Decal		1
5	Glue		1

Diagram



#2

Least Cost technique:

	R	P	C	K	Capacity
L	90	90	100	70	10,000
M	85	70	60	130	20,000
Demand	10,000	5000	5000	10,000	

Smallest transportation Cost is 60 in cell MC

The Maximum can be allocated is 5000

The Cell with smallest transportation cost and maximum allocation is LK Max^m allocation can be 10,000

	R	P	C	K	capacity
L	90	90	100	70 [10,000]	0
M	85	70	60 [5000]	130	15,000
Demand	10,000	5000	0	0	

Now, min^m cost cell in MP and max^m allocation can be 5000

	R	P	C	K	Capacity
L	90	90	100	70 [10 000]	0
M	85	70 [5000]	60 [5000]	130	10 000
Demand	10 000	0	0	0	

Now, min^m cost cell is MR and max^m allocation can be 10 000

So.

	R	P	C	K	Capacity
L	90	90	100	70 [10 000]	0
M	85 [10 000]	70 [5000]	60 [5000]	130	0
Dmd	0	0	0	0	

Minimum total transportation Cost

$= 70 \times 10\,000 + 85 \times 10\,000 + 70 \times 5000 + 60 \times 5000$

$= 2.200\ 000$

Total # of allocations = 4 which is less than $m+n-1 = 2+4+1 = 5$

Problem is degenerate

In Cell evaluation Matrix, all the values are positive. So, the solution is optimum

So

Cost = 2. 200 000

#6

Answers

	1	2	3	4	5	6	7	8	9
1	–								
2	0	–							
3	1	0	–						
4	0	16	8	–					
5	0	0	8	0	–				
6	0	0	0	0	0	–			
7	4	0	0	0	0	0	–		
8	4	0	0	0	0	0	16	–	
9	8	0	8	0	0	0	0	0	–

A - 16 - ≡

E - 8 - =

I - 4 - –

O - 1 - ~~~

U - 0 - - - - -