Ch 6-Section 6.3

Developing a Block Layout Using SLP

6.5 What are the basic differences between construction-type and improvement-type layout algorithms?

6.7 Four departments are to be located in a building of 600' × 1000'. The expected personnel traffic flows and area requirements for the departments are shown in the tables below. Develop a block layout using SLP.

Dept.	A	B	C	D
A	0	250	25	240
B	125	0	400	335
C	100	0	0	225
D	125	285	175	0

Department	Department Dimension
A	200' × 200'
B	400' × 400'
C	600' × 600'
D	200' × 200'

6.8 XYZ Inc. has a facility with six departments (A, B, C, D, E, and F). A summary of the processing sequence for 10 products and the weekly production forecasts for the products are given in the tables below.

a. Develop the from-to chart based on the expected weekly production.

b. Develop a block layout using SLP.

Product	Processing Sequence	Weekly Production
1	ABCDEF	960
2	ABCBEDCF	1200
3	ABCDEF	720
4	ABCEBCF	2400
5	ACEF	1800
6	ABCDEF	480
7	ABDECBF	2400
8	ABDECBF	3000
9	ABCDF	960
10	ABDEF	1200

Dept.	Dimension
A	40' × 40'
B	45' × 45'
C	30' × 30'
D	50' × 50'
E	60' × 60'
F	50' × 50'

6.9 A toy manufacturing company makes 10 different types of products. There are 15 equal-sized departments involved. Given the following product routings and production forecasts,

a. Construct a from-to chart for the facility.

b. Develop a block layout using SLP.

Product	Processing Sequence	Weekly Production
1	A B C D B E F C D H	500
2	M G N O N O	350
3	H L H K	150
4	C F E D H	200
5	N O N	100
6	I J H K L	150
7	G N O	200
8	A C F B E D H D	440
9	G M N	280
10	I H J	250

6.11 An activity relationship chart is shown below for the American Mailbox Company. Construct a relationship diagram for the manufacturing facility. Given the space requirements (in ft²), construct a block layout using SLP.

Department	Area
RECEIVING	2,500
PUNCH PRESS	5,500
PRESS BENDING	2,500
PRESS FORMING	2,500
RIVETING	1,500
POWER SAWING	2,500
POWER DRAW	2,000
WELDING ROBOT	1,000

Relationship chart (read between pairs):

- RECEIVING – PUNCH PRESS: A
- RECEIVING – PRESS BENDING: I
- RECEIVING – PRESS FORMING: O
- RECEIVING – RIVETING: U
- RECEIVING – POWER SAWING: U
- RECEIVING – POWER DRAW: O
- RECEIVING – WELDING ROBOT: U
- PUNCH PRESS – PRESS BENDING: A
- PUNCH PRESS – PRESS FORMING: O
- PUNCH PRESS – RIVETING: E
- PUNCH PRESS – POWER SAWING: E
- PUNCH PRESS – POWER DRAW: A
- PUNCH PRESS – WELDING ROBOT: U
- PRESS BENDING – PRESS FORMING: O
- PRESS BENDING – RIVETING: U
- PRESS BENDING – POWER SAWING: E
- PRESS BENDING – POWER DRAW: I
- PRESS BENDING – WELDING ROBOT: O
- PRESS FORMING – RIVETING: I
- PRESS FORMING – POWER SAWING: U
- PRESS FORMING – POWER DRAW: U
- PRESS FORMING – WELDING ROBOT: E
- RIVETING – POWER SAWING: X
- RIVETING – POWER DRAW: U
- RIVETING – WELDING ROBOT: U
- POWER SAWING – POWER DRAW: U
- POWER SAWING – WELDING ROBOT: O
- POWER DRAW – WELDING ROBOT: U