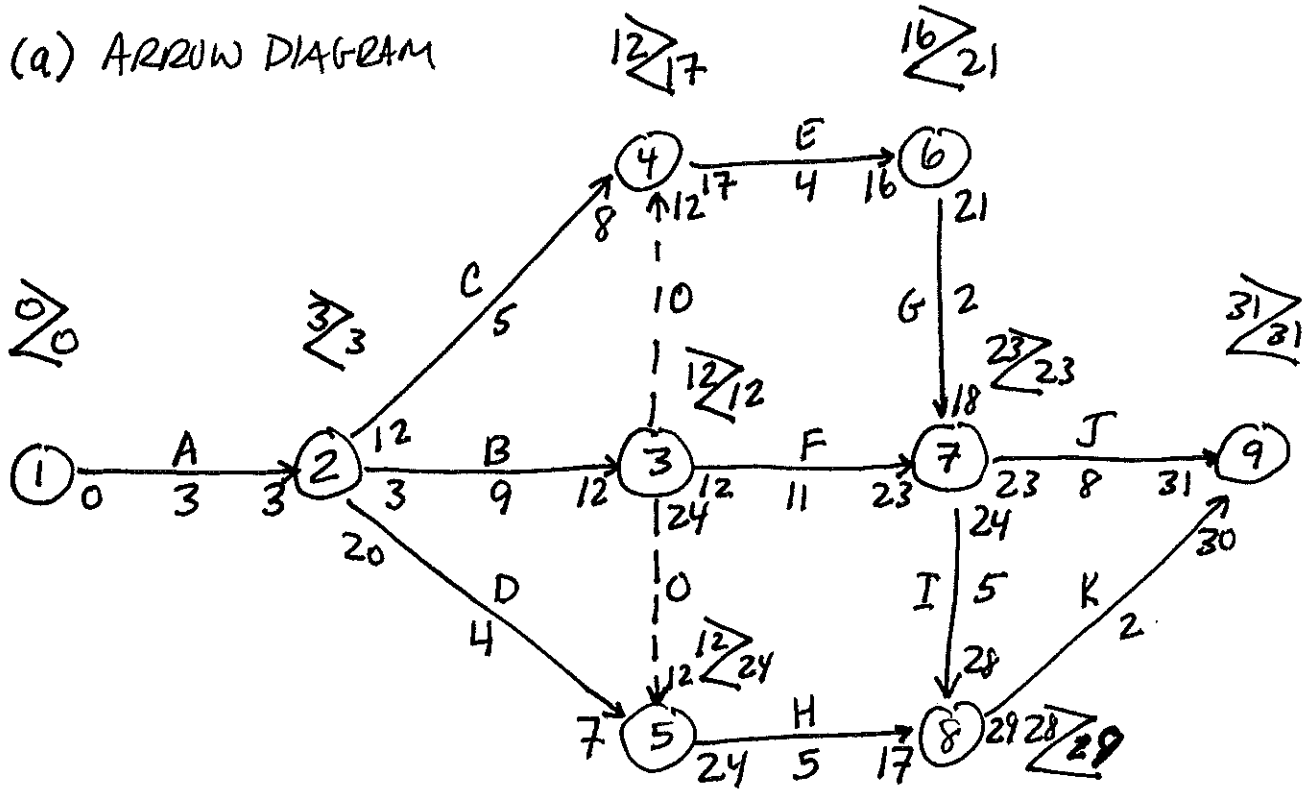
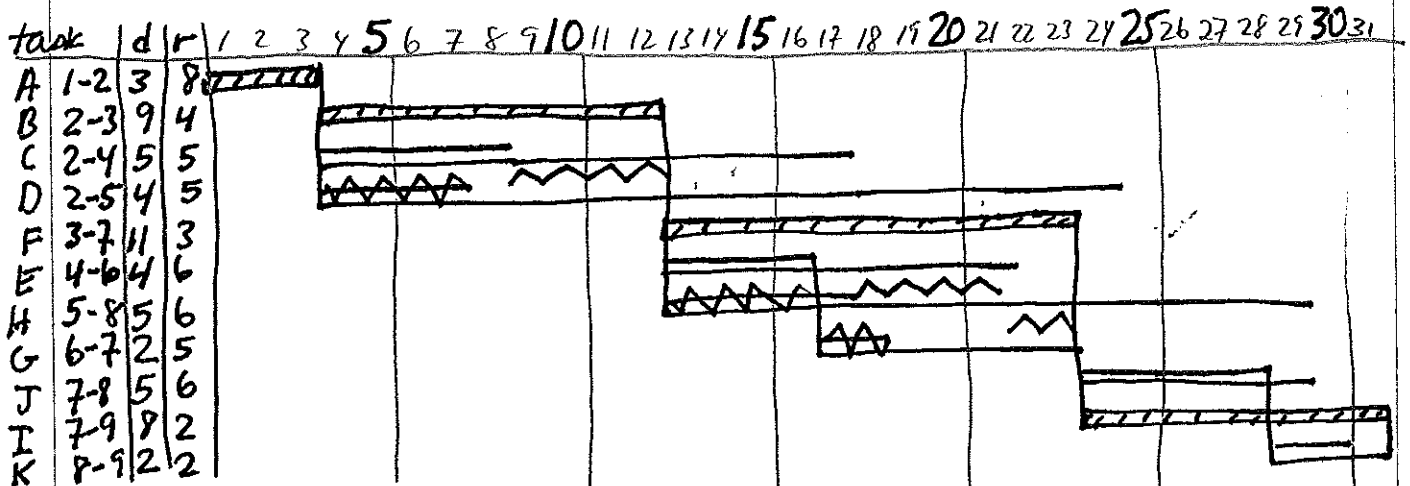


(a) ARROW DIAGRAM



(b)	D	$FF = 12 - 7 = \underline{5}$	$IndF = 12 - (3+4) = \underline{5}$
FLWAT		$TF = 24 - 7 = \underline{17}$	$SF = 20 - 3 = \underline{17}$
		$IF = 17 - 5 = \underline{12}$	
	E	$FF = 16 - 4 = \underline{12}$	$IndF = 16 - (17+4) = \underline{0}$
		$TF = 21 - 16 = \underline{5}$	$SF = 17 - 17 = \underline{0}$
		$IF = 12 - 5 = \underline{7}$	
	G	$FF = 23 - 18 = \underline{5}$	$IndF = 23 - (21+2) = \underline{0}$
		$TF = 23 - 18 = \underline{5}$	$SF = 21 - 21 = \underline{0}$
		$IF = 5 - 5 = \underline{0}$	

(C)(e) MODIFIED BAR CHART AND RESOURCE LEVELING



task	d	r	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
A	1-2	3	8																															
B	2-3	4		4																														
C	2-4	5		5																														
D	2-5	5		5																														
F	3-7	3							3																									
E	4-6	6						6																										
H	5-8	6								6																								
G	6-7	5																	5															
J	7-8	6																																
I	7-9	2																																
K	8-9	2																																
REQ.			8	8	8	14	14	14	14	9	4	4	4	4	15	15	15	15	14	8	3	3	3	3	3	3	8	8	8	8	4	4	2	
RES.						9	9	9	9	9	9	9	9	9	9	9	9	9	9	14	9	9	9	9	9	9	8	8	8	8	4	4	2	
Sh. 2-5						9	9	9	9																									
Sh. 5-8														9	9	9	9			14	9	9	9	9										
Sh. 6-7																				9	9					8	8							

(d) C is iii, E is iii, G is ii

(f) CRASH

(F) 3-7 5 days (2-4-6-8 go critical)

(J) 7-9 1 day (7-8-9 go critical)

(I) 7-9 and (I) 7-8 2 days

SAVINGS:

$$5(600) - 5(400)$$

$$+ 1(600) - 1(300)$$

$$+ 2(600) - 2(300 + 200)$$

$$= 3000 - 2000 + 600 - 300 + 1200 - 1000$$

$$= 1000 + 300 + 200$$

$$= \underline{\$1500}$$

PROJECT IS NOW  $31 - 8 = \underline{23 d}$

SAVED \$1500

CRASHED:

F(3-7)	5 d
J(7-9)	3 d
I(7-8)	2 d