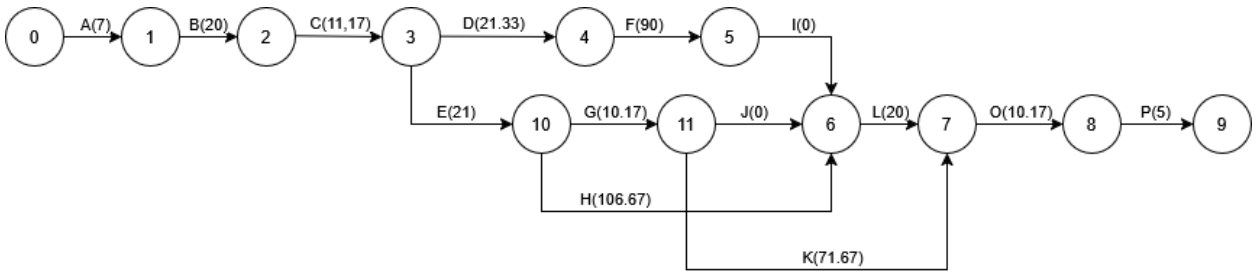
Ionita Alexandru-Mihail
1241B

Seminary 2 – Industrial Management

1.

Symbol	a (days)	m (days)	b (days)	dF (Mean Duration)
A	5,00	7,00	10,00	7.00
B	15,00	20,00	30,00	20.00
C	7,00	10,00	20,00	11,17
D	12,00	20,00	40,00	21.33
E	15,00	21,00	30,00	21.00
F	70,00	90,00	120,00	90.00
G	6,00	10,00	15,00	10,17
H	100,00	105,00	120,00	106.67
I	0,00	0,00	0,00	0.00
J	0,00	0,00	0,00	0.00
K	60,00	70,00	90,00	71.67
L	10,00	20,00	30,00	20.00
M	5,00	8,00	14,00	8,17
N	8,00	12,00	20,00	12.00
O	8,00	10,00	15,00	10,17
P	5,00	5,00	5,00	5.00



2. Critical Path: A -> B -> C -> D -> F -> G -> J -> K -> L -> O -> P

Nr	Symbol	a	m	b	Mean Duration ($\bar{d}$)	Variance (σ^2)
1	A	5	7	10	$(5 + 4\times7 + 10)/6 = 7.0$	$((10-5)/6)^2 = 0.694 \approx 0.69$

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Nr	Symbol	a	m	b	Mean Duration ($\bar{d}$)	Variance (σ^2)
2	B	15	20	30	(15 + 4×20 + 30)/6 = 20.0	$((30-15)/6)^2$ = 6.25
3	C	7	10	20	(7 + 4×10 + 20)/6 = 11.17	$((20-7)/6)^2 \approx$ 4.69
4	D	12	20	40	(12 + 4×20 + 40)/6 = 21.33	$((40-12)/6)^2 \approx$ 22.22
5	E	15	21	30	(15 + 4×21 + 30)/6 = 21.5	$((30-15)/6)^2$ = 6.25
6	F	70	90	120	(70 + 4×90 + 120)/6 = 91.67	$((120-70)/6)^2 \approx$ 69.44
7	G	6	10	15	(6 + 4×10 + 15)/6 = 10.17	$((15-6)/6)^2$ = 2.25
8	H	100	105	120	(100 + 4×105 + 120)/6 = 106.67	$((120-100)/6)^2 \approx$ 11.11
9	I	-	-	-	- (Fictitious)	0
10	J	-	-	-	- (Fictitious)	0
11	K	60	70	90	(60 + 4×70 + 90)/6 = 71.67	$((90-60)/6)^2$ = 25.0
12	L	10	20	30	(10 + 4×20 + 30)/6 = 20.0	$((30-10)/6)^2$ = 11.11
13	M	5	8	14	(5 + 4×8 + 14)/6 = 8.5	$((14-5)/6)^2 \approx$ 2.25
14	N	8	12	20	(8 + 4×12 + 20)/6 = 12.67	$((20-8)/6)^2 \approx$ 4.0
15	O	8	10	15	(8 + 4×10 + 15)/6 = 10.17	$((15-8)/6)^2$ = 1.36

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Nr	Symbol	a	m	b	Mean Duration ($\bar{d}$)	Variance (σ^2)
16	P	5	5	5	5.0 (deterministic)	0.0

$$Z = \frac{Tp - \bar{T}}{\sigma T} = \frac{205 - 266.5}{11.13} \approx -5.53$$

4.