

CSE347

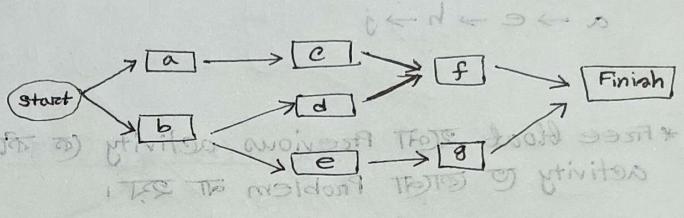
Project Scheduling

31.01.24 / CSE247
Wednesday / Clas-2

Critical Path Method (CPM)

Activity on Arrow → PERT
Activity on Node → CPM

AON	Task	Predecessor
A	-	-
B	a	-
C	b	-
D	b	a
E	c, d	a
F	e	b
G	-	c, d



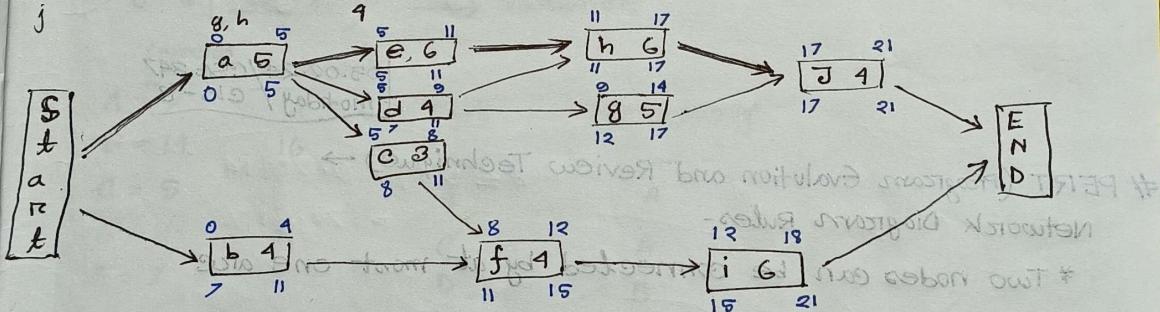
Earliest Start (ES) = min (Next Earliest Start)

Table 5.2 Activities and their tasks

Activity	Predecessors	Duration
a	-	5 days
b	a	3
c	a	4
d	a	6
e	a	1
f	b, c	5
g	d	6
h	d, e	6
i	f	9
j	g, h	4

Forwarded \rightarrow max
Backward \rightarrow Min
value वितरा.

a - c - h - j



$$\text{Total Float} = LS - ES$$



$$\begin{array}{r} a = 0 - 0 = 0 \\ b = 7 - 0 = 7 \\ c = 8 - 5 = 3 \\ d = 7 - 5 = 2 \end{array}$$

$$\begin{array}{l} e = 5 - 5 = 0 \\ f = 11 - 8 = 3 \\ g = 12 - 3 = 9 \\ h = 11 - 11 = 0 \end{array} \quad \left| \begin{array}{l} i = 15 - 12 = 3 \\ j = 17 - 17 = 0 \end{array} \right.$$

* प्राकृतिक Activity o अवश्यक Critical activity पर्याप्त Task भूलो नियंत्रण Path इसे जैसे Critical Path कहते हैं।

a → e → h → j

* Free float হলো Previous activity কে কমিশন্স change করানো ও পয়েন্ট
activity অ করানো Problem বা হয়।

* Free Float : = min ES (next task) - EF (Current task)

$$a = 5 - 5 = 0$$

$$j = 21 - 21 = 0$$

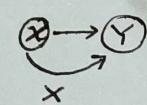
$$b = 8 - 4 = 4$$

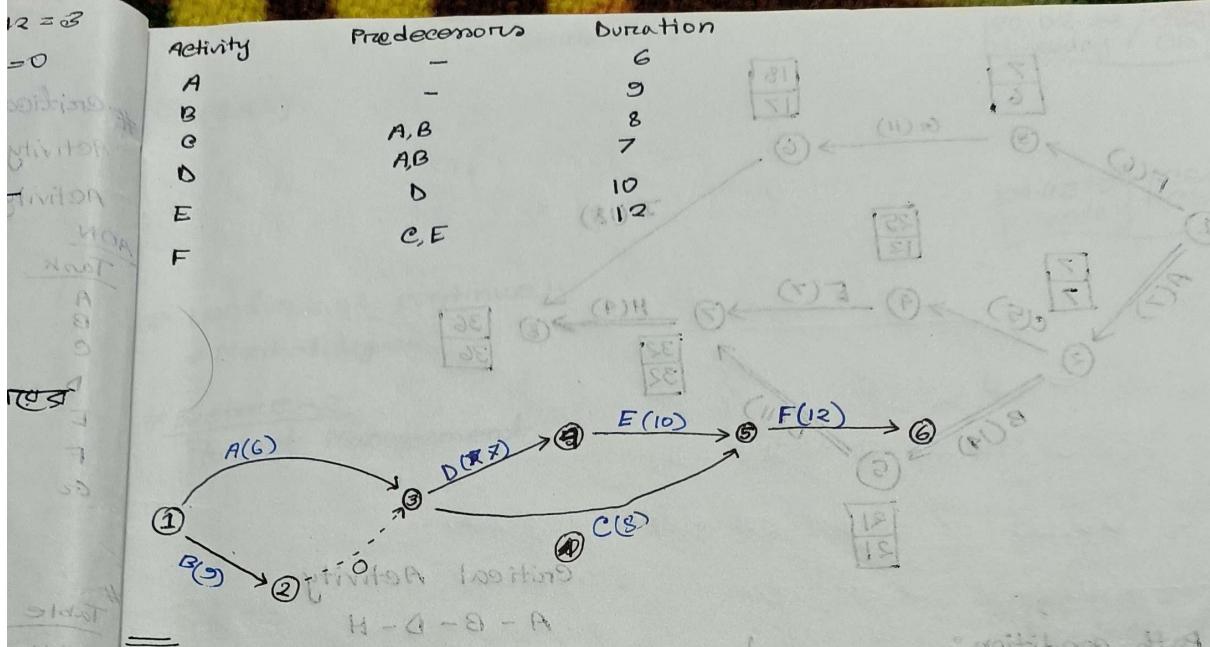
[Last activity द लालो
bree bloat हर
क्षमता इस वा]

PERT (Program Evaluation and Review Technique) →

Network Diagram Rules -

* Two nodes can be connected by at most one arc





#3 Point estimation technique →

optimistic time estimate (t_o or a)

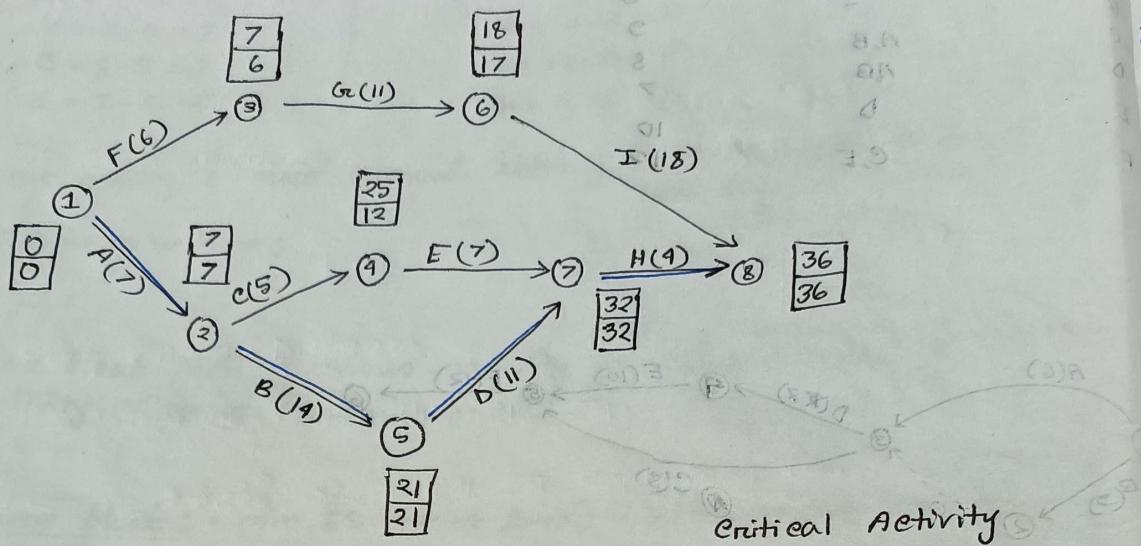
Most likely time estimate (t_m or m)

Pessimistic time estimate (t_p)

$$\text{Expected time} = \frac{t_o + 4t_m + t_p}{6}$$

$$\sigma^2 = \left(\frac{t_p - t_o}{6} \right)^2 \rightarrow \text{Variance}$$

Task	Dependency
A = 7	
B = 14	A
C = 5	B
D = 11	C
E = 7	D
F = 6	E
G = 11	F
H = 9	D, E
I = 18	G



Critical Path condition:

$$i) ES_i = LF_i$$

$$ii) ES_j = LF_i$$

$$iii) ES_j - ES_i = LF_j - LF_i = T_{ij}$$

↗ Summing up activities to T_p
 Project length variance, σ^2
 (as sum of) Standard deviation variance
 $= (4 + 16 + 4 + 1)$
 (as sum of) Standard shift until now
 $= 25$
 (as) Standard deviation $\sigma = 5$

$$\text{Sum of lagged } \rightarrow \text{sum of } \sigma^2 = \sigma^2$$

$$\therefore D = \frac{T_p - T_e}{\sigma} = \frac{40 - 36}{\sqrt{25}} = 0.8$$

$$\therefore P(Z \leq 0.8) = 0.78814$$

$$= 78.81\%$$

A = A
B = B
C = C
D = D
E = E
F = F
G = G
H = H
I = I

A = A
B = B
C = C
D = D
E = E
F = F
G = G
H = H
I = I

A = A
B = B
C = C
D = D
E = E
F = F
G = G
H = H
I = I

A = A
B = B
C = C
D = D
E = E
F = F
G = G
H = H
I = I

CS CamScanner

Lecture-1

20.02.24 / CSE 347
Tuesday Clb-4

田 (SRS)

Lecture-1 continue -
Methodologies

Lecture-2
Project Management

WBS
COCOMO
Monitoring and Controlling

04.03.24 / CSE 347
Monday Clb-5

06.03.24 / CSE 347
Wednesday Clb-6
Midxm → 25 tarzik
Quiz - 13 tarzik
(CPM)

11.03.24 / CSE 347
Monday Clb-7

Requirement Determination -

Type - ① Functional
② Non-functional

Joint Application Development (JAD)

Questionnaires ↓
Questionnaire steps

Document Analysis

Observation

→ Req. Determination → Interview (Data Collect করার জন্য মুদ্রা)
→

THESE ARE THE
STEPS IN
INTERVIEW

C?

Final Start

27.03.24 / CSE347
Wednesday Ch-8

Sequence Diagram

→ : নির্দেশ এবং নাম করিষ্যাত হয়।

↔ এইটি ক্রসাব করা হয় Reply msg te.

↔ Normal Conversation

msg send করলে receiver reply দিলে এটি গুরুত্ব হয়।
msg send করলে receiver reply দিলে এটি গুরুত্ব হয়।
msg send করলে receiver reply দিলে এটি গুরুত্ব হয়।

প্রারম্ভিক কাজ প্রস্তুতি করা

01.04.24 / CSE347
Monday Ch-9

Software Testing —

Testcase

Input Output

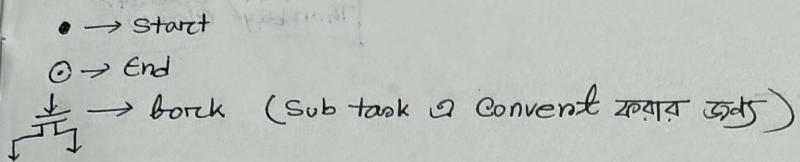
Automation → Script

(ATC) কাজগোড়া করার জন্য কীভাবে কাজ করা হবে
কোটি সম্মত করা

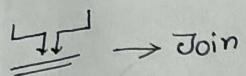
যাইল্ড ফাংকশন

প্রক্রিয়াজ করা

Activity Diagram



03.04.24 / CSE347
Wednesday Ch-10

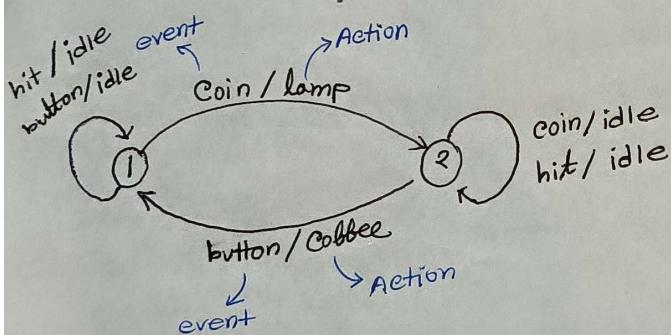


swimlane diagram

17.04.24 / CSE347
Wednesday Ch-11

田 State Diagrams -

এই Diagram draw কর্যাব অবস্থা লক্ষ্য রাখতে হবে Object কেন দেখাতে
যাচ্ছে এবং কেন Command দ্বারা ফলে কি Result হবে পাবে।



00:01:21 / 00:01:19
Mandag
00:01:21 / 00:01:19
lunedì / 00:01:19

UML class diagramme = the static behaviour in each class (state)

Final

- Software testing → (unit testing suitable with UML state diagram)
- Sequence diagram
- Activity "
- DFD
- State "
- Class " (most)

