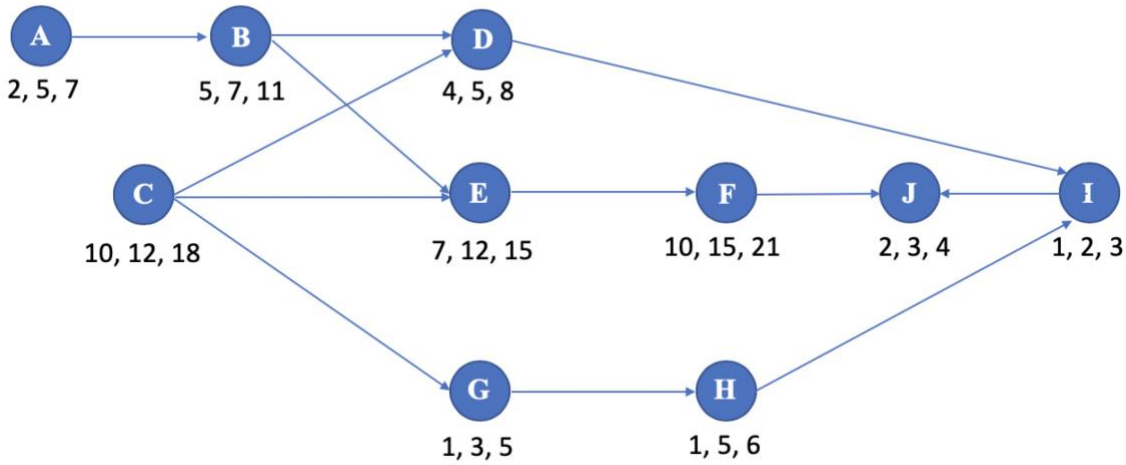
Members: WANG XINRUI (A0186103M) ZHANG AO (A0176595L) LI LIPING (A0186040M)

DSC5211C QUANTITATIVE RISK MANAGEMENT

SESSION 12 – Workshop

Exercise 1. NUS Football Tournament

A) Construct an activity-on-node diagram.



B) Compute the critical path. What is the project time?

Nodes	ES	EF	LS	LF	Slack
A	0	5	0	5	0
B	5	12	5	12	0
C	0	12	0	12	0
D	12	17	32	37	20
E	12	24	12	24	0
F	24	39	24	39	0
G	12	15	29	32	17
H	15	20	32	37	17
I	20	22	37	39	17
J	39	42	39	42	0

From the above calculations, we can see that the critical path is A, B, C, E, F, J

The corresponding time is **42 days**.

C) Perform a risk analysis and compare it with the result reported in B).

```
----    177 VARIABLE var.L                  =       46.381  value at risk
            VARIABLE cvar.L                 =       47.581  conditional value at
                                                            risk
```

From the code in GAMs, we calculate CVaR for 1,000 scenarios. Var is 46.381 and CVaR is 47.581 with beta=0.9. With the uncertainty built in, there is risk that the total finish time will exceed our expectation.