Quiz-3

1) Different ways scheduler can split 4 jobs on 2 computing nodes :

$$\frac{(n+1)}{2} = \text{ceil}\left(\frac{5}{2}\right) = 3$$

2) Case 1 :

4 jobs — CPU utilization = $(1) - (0.5)^4 = 0.93$

0 jobs — CPU utilization = 0

Avg CPU utilization = $\frac{0.93 + 0}{2} = 46.9\%$

Case 2 :

2 jobs — CPU utilization = $1 - (0.5)^2 = 0.75$

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Avg CPU utilization = $0.75 = 75\%$

Case 3 :

Can be considered 0.5 or 0.25

3 jobs — CPU utilization = $1 - (0.5)^3 = 0.875$

1 job — CPU utilization = $1 - 0.5 = 0.5$

Avg CPU = $\frac{0.875 + 0.5}{2} = 68.75\%$

Best way to split 4 jobs on CPU is in case 2 as Avg CPU utilization is 75% to both nodes.