

Assignment 1

- Perform Monte Carlo Simulation
- Using Given data of inter arrival times and service times
- Generate your own Random Number Table

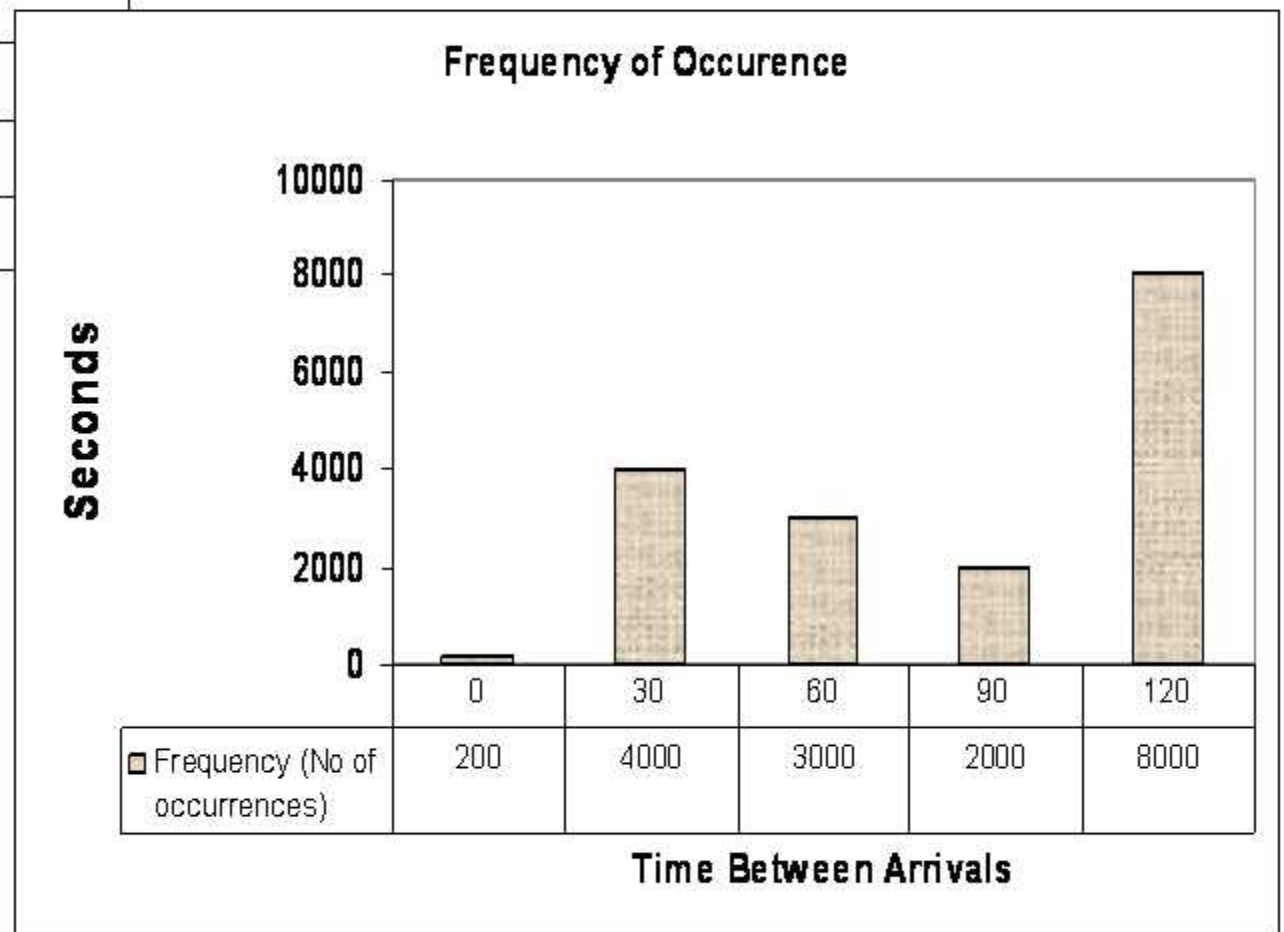
TIME - OF - ARRIVAL (TOA) & TIME-BETWEEN-ARRIVAL (TBA)

No	TOA	TBA	No	TOA	TBA	No	TOA	TBA
1	8:05	5	6	8:37	8	11	8:54	5
2	8:15	10	7	8:38	1	12	8:59	5
3	8:23	8	8	8:40	2	13	9:05	6
4	8:27	4	9	8:47	7	14	9:08	2
5	8:29	2	10	8:49	2	15	9:15	7

In Computer-Based Simulation Modeling, Arrival statistics is TBA.

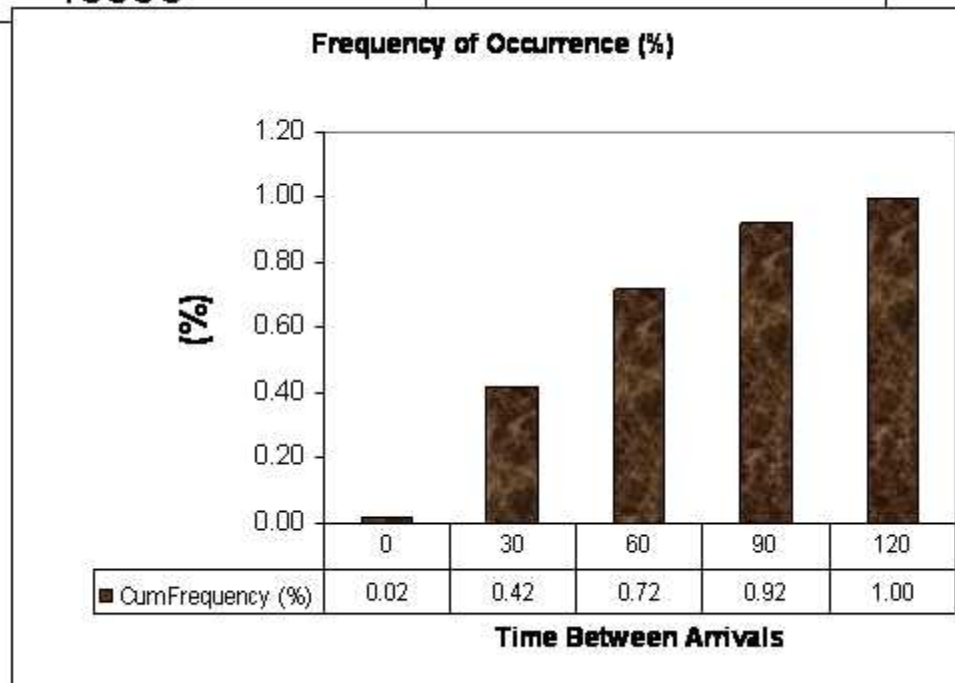
MONTE CARLO SIMULATION – USING PAST DATA ABOUT TBA

TBA (SEC)	Frequency (No of occurrences)
0	200
30	4000
60	3000
90	2000
120	8000
Total	10000



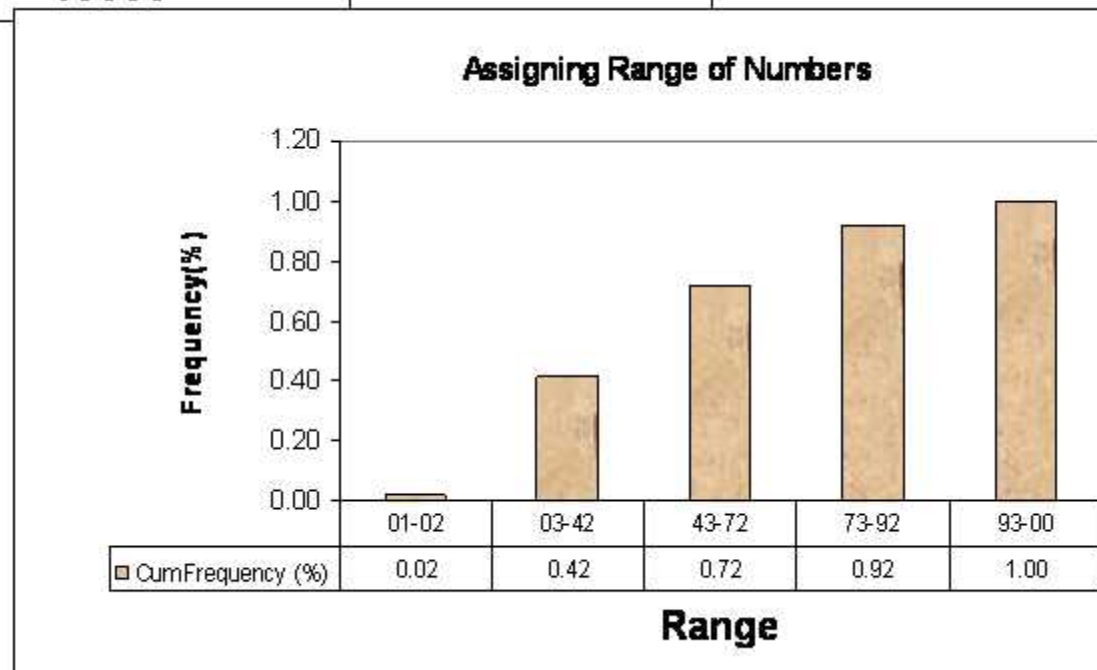
FINDING CUM % FREQUENCY OF TBAs

TBA (SEC)	Frequency (No of occurrences)	Cumulative Frequency	Cumulative Frequency (%)
0	200	200	0.02
30	4000	4200	0.42
60	3000	7200	0.72
90	2000	9200	0.92
120	800	10000	1.00
Total	10000		



ASSIGNING RANGE OF NUMBERS TO CUM % FREQUENCY FOR VARIOUS TBAs

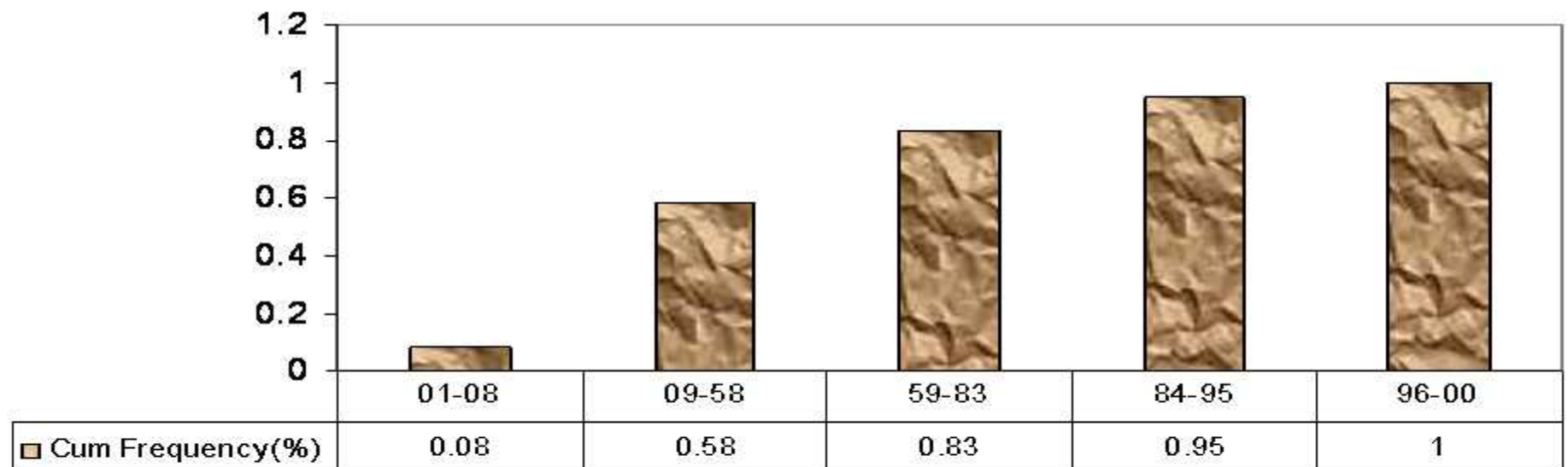
TBA (SEC)	Frequency (No of occurrences)	Cumulative Frequency	Cumulative Frequency (%)	Range of Numbers (RN)
0	200	200	0.02	01-02
30	4000	4200	0.42	03-42
60	3000	7200	0.72	43-72
90	2000	9200	0.92	73-92
120	800	10000	1.00	93-00
Total	10000			



ASSIGNING RANDOM NUMBERS TO SERVICE TIMES

SERVICE TIME (SEC)	PROBABILITY	CUMULATIVE PROBABILITY	RANDOM NUMBER RANGE
20	0.08	0.08	01-08
40	0.5	0.58	09-58
60	0.25	0.83	59-83
80	0.12	0.95	84-95
100	0.15	1.00	96-00

Cum Frequency(%)



Range of Numbers