

=====QUESTION=====

Consider a factory that manufactures football taking 20 to 40 minutes. The ball is moved from the generation to the inspection machine taking a 2 minutes. There are 3 inspection machine at one place and need 30 to 60 minutes for inspection and reject 30% of football. Simulate for 1000 transaction . Draw GPSS block diagram to simulate this system.

solution:

Here, Manufacture of football takes 20 to 40 minutes so,

mean = $(20+40)/2 = 30$

Generate = 30 ± 10

product take 2 minutes to reach for inspection i.e. ADVANCE = 2, and for inspection

it take 30 to 60 minutes,

mean = $(30+60)/2 = 45$

ADVANCE = 45 ± 15

=====GPSS CODE=====

```
GENERATE 30,10 ; Create parts
ADVANCE 2,0 ; To Inspect
SEIZE Barber ; Get an Inspector
ADVANCE 45,15 ; Inspect
RELEASE Barber ; Free Inspector
TRANSFER 0.3,ACC,REJ ; Select Reject
ACC TERMINATE 1 ; Accepted parts
REJ TERMINATE 1 ; Rejected parts
```

START 2000 ; Run 2000 parts

=====result=====

GPSS World Simulation Report - Untitled Model 7.13.1

Sunday, June 30, 2024 12:29:21

START TIME	END TIME	BLOCKS	FACILITIES	STORAGES
0.000	90361.371	8	1	0

NAME	VALUE
ACC	7.000
BARBER	10000.000
REJ	8.000

LABEL	LOC	BLOCK TYPE	ENTRY COUNT	CURRENT COUNT	RETRY
1	GENERATE	3026	0	0	
2	ADVANCE	3026	1025	0	
3	SEIZE	2001	1	0	
4	ADVANCE	2000	0	0	
5	RELEASE	2000	0	0	
6	TRANSFER	2000	0	0	
ACC	7	TERMINATE	1414	0	0

REJ 8 TERMINATE 586 0 0

FACILITY	ENTRIES	UTIL.	AVE.	TIME	AVAIL.	OWNER	PEND	INTER	RETRY	DELAY
BARBER	2001	1.000	45.139	1	2001	0	0	0	1025	

CEC XN	PRI	M1	ASSEM	CURRENT	NEXT	PARAMETER	VALUE
2001	0	59337.041	2001	3	4		

FEC XN	PRI	BDT	ASSEM	CURRENT	NEXT	PARAMETER	VALUE
3027	0	90388.134	3027	0	1		