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CSC 148
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Homework #1

1. Source Code:

```
; "Homework 1"       by Anshul Shandilya, CSC148,  Date 9/20/2020
; One t.u. represents 1 second; Model temination when tc <- 0


        clear                   ; Remove any residual info in memory
from previous gpssW runs

genA      equ      10           ; Value 10 for generate A
genB      equ      6            ; Value 6 for generate B
advA      equ      7            ; Value 7 for advance A
advB      equ      3            ; Value 3 for advance B
RN1_seed  equ      198574       ;This will equate the value to RN1_seed
          rmult    RN1_seed     ;Seed gpss built in random gen
tableA    TABLE    q$w_barber,1,1,40       ;Table 1
tableB    TABLE    M1,1,1,40    ;Table 2


; Customer transaction
cj        generate  genA,genB        ; Uniform distribution of customer cj
interarrivals, mean=300
          queue    w_barber          ; Start gathering stats for cj service
wait time
          TABULATE  tableA           ;
          queue    res_time          ;
          seize    barber            ; cj waits for busy barber OR starts
haircut if barber is free
          depart   w_barber          ; Finish gathering stats for cj service
wait time
          advance   advA,advB        ; Uniform distribution of cj service
duration, mean=400
          release   barber           ; cj finishes haircut, and barber  now
free to do next service
          depart   res_time          ;
          TABULATE  tableB           ;
          terminate 1                ; cj immediately leaves barber shop
(Side-effect: tc <-- tc - 1)
```

2.

GPSS World Simulation Report - h1.41.1

Sunday, September 20, 2020 14:15:47

START TIME	END TIME	BLOCKS	FACILITIES	STORAGES
0.000	99326.725	11	1	0

3.

```
FACILITY         ENTRIES  UTIL.    AVE. TIME AVAIL. OWNER PEND INTER RETRY
DELAY
 BARBER          10001    0.706      7.013  1      10001   0    0     0
0


QUEUE            MAX CONT. ENTRY ENTRY(0) AVE.CONT. AVE.TIME   AVE.(-0)
RETRY
 W_BARBER          3   1  10001    6671     0.098     0.969      2.912  0
 RES_TIME          4   1  10001       0     0.804     7.983      7.983  0
```

4.

```
FACILITY         ENTRIES  UTIL.    AVE. TIME AVAIL. OWNER PEND INTER RETRY
DELAY
 BARBER          10001    0.702      6.981  1      10001   0    0     0
0


QUEUE            MAX CONT. ENTRY ENTRY(0) AVE.CONT. AVE.TIME   AVE.(-0)
RETRY
 W_BARBER          3   1  10001    6667     0.093     0.929      2.787  0
 RES_TIME          4   1  10001       0     0.795     7.910      7.910  0
```

5.

TABLEB
Mean: 7.983   S.D.: 2.654