NOT DONE

DONE BUT NOT TESTED

DONE AND TESTED

Random Number Generation

Random number within a range

Random number between 0 and 1

Random number for Work of Type II:

* Range [200, 600], mean 350
* Generate a value *num* in [0, 1]
* Use *value = ceiling[200 + 400\*num^(5/3)]*

Random number for Work of Type III

* Range [150, 500], mean 250
* Generate a value *num* in [0, 1]
* Use *value = ceiling [150 + 350\*num^(5/2)]*

Random number for interval for Type III processes

* Range [25, 75], mean 40
* Generate a value *num* in [0,1]
* Use *value = ceiling [25 + 50\*num^(7/3)]*

Random number for length for Resource C

* Range [100, 400], mean 200
* Generate a value *num* in [0,1]
* Use *value = ceiling [100 + 300\*num^2]*

Creating Processes

1. Generate a priority
   1. 1 - 50%
   2. 2 - 20%
   3. 3 - 10%
   4. 4 - 10%
   5. 5 - 5%
   6. 6 - 5% 🡨 highest priority
2. Generate random number 1 – 100
   1. 1 – 50 🡪 Type I
   2. 51 – 80 🡪 Type II
   3. 81 – 97 🡪 Type III
   4. 98 – 100 🡪 Type IV
3. Determine work required
   1. Type I 🡪 generate a random number between 0 and (75 – 25) add to 25
   2. Type II 🡪 use the random number generator for the work of type II
   3. Type III 🡪 use the random number generator for work of type III
   4. Type IV 🡪 generate random num between 0 and (1000-400) add to 400
4. Determine blocking
   1. Type I
      1. Will it block 🡪 generate random number between 0 and 1, <0.4 block
      2. Where it blocks 🡪 pick number between start + 1 and end -1
      3. Resource used 🡪 random number between 0-1, <0.5, A, otherwise B
      4. Length of block 🡪 resource dependent
   2. Type II doesn’t block
   3. Type III
      1. Blocking interval
         1. Non-uniform distribution, use random number generator for this type to determine when to block, length described below
      2. Resource used 🡪 random num between 0-1,
         1. x < 0.5 🡪 B
         2. 0.5< x <0.85 🡪 A
         3. x >= 0.85 🡪 C
      3. Block length 🡪 resource dependent
   4. Type IV
      1. Blocking interval 🡪 uniform between 40 and 120
      2. Resource Used 🡪 B 50%, C 50%
      3. Block Length 🡪 resource dependent
5. Blocking length
   1. A 🡪 uniform between 60 – 100
   2. B 🡪 uniform between 75 – 125
   3. C 🡪 non-uniform uses its own generator
   4. D 🡪 irrelevant
6. Report Function