Module: Process

Extends: Thread

Field Variables:

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| Field Name | Type | Meaning |
| remainingExecutionTime | int | Represents the remaining execution time this process has left to execute before finishing. |
| id | int | Represents the id number of the Process |
| runTime | int | Represents the execution time the process has been given by the CPU during its next execution. |

INTERFACE:

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| Method Name | Input | Output | Description | State Transitions | Dependencies |
| run() | void | void | Overridden method from Thread  The thread sleeps for the given runTime- representing"work" done by the thread. |  | sleep() |
| Process(int id) | An integer to be assigned as the id number of the Process | Process | Constructor  Assigns a random number between 1000 and 7000 as the execution time for the Process | this.id=id  executionTime=randInt(1000,7000) | this.randInt() |
| updateTime(int Long l) | A long integer representing how long the Process ran for (CPU maxRunTime) | integer Long  how long the thread ran |  | int newTime=executionTime-l  int r = executionTime;  if (newTime>0){  executionTime=newTime;  return newTime  }  else{  executionTime=0;  return r;  } |  |
| checkTime() | - | An integer representing the remaining execution time the Process has left to execute before finishing. | Getter (returns remainingExecutionTime) | - | - |
| getid() | - | Returns the Process's assigned id number | Getter (returns id) | - | - |
| checkRunTime() | - | Returns the assigned run time | Getter (returns runTime) | - | - |
| updateTime(int cpuRunTime) | An integer representing the maxExecutionTime of the CPU. | void | Given the maximum execution time the process is allowed to run, this method calculates the amount of time the Thread will run upon its next execution, as well as the remaining execution time it will have after the next execution. | difference=(remainingExecutionTime-cpuRunTime);    if(difference>0): remainingExecutionTime=newTime;  runTime=cpuRunTime;  else: runTime=remainingExecutionTime; remainingExecutionTime=0; | - |

IMPLEMENTATION:

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| Method Name | Input | Output | Description | State Transitions | Dependencies |
| randInt(int min, int max) | An integer min, representing the minimum of the range.  An integer max, representing the maximum value of the range. |  | Generates a random integer in the range of [min, max] |  | java.util.Random |