The third project: Memory management by Paging

In this task, students should design a virtual simulation to represent a memory management system with Paging. The system run as follow.

- The system to design runs with Round Robin Scheduling, and its quantum interval must be 1 second.
- In the system, student should consider that there are only four processes in which each one has 8 pages. At runtime, process creation or termination will not happen.
- Main memory must have 20 frame. On screen, each frame/page should be shown by a rectangle.
- Each process should read its 2 different pages in quantum interval.
- Page accessed by running process must be colored in green, others may be yellow.
- The number of page accessed by running process (produced random number) must be an integer between [0-7] because it shows an address at logical memory.
- Each process must have its page table to map logical address into physical address. Page tables should have also valid/invalid bit column and each table must be shown on screen.
- To count all page faults happend in the system, a counter must be organized. If page accessed by running process is "invalid" in page table, this situation must be highlighted and the page fault counter must be increased.
- When a page fault happened, the system should choose a random one among frames in main memory (and not used by running process), and swapped out it. Then the system can swap in required page from backing store into this freed page.

Deadline: May 19, 2015

NOTE: To be applicant for oral presentation of the project, students have to upload their source codes onto moodle system. If student does not come to oral presentation, his/her project does not be evaluated. We are not responsible for any confusion in moodle system because of overload on last day. Projects sent by e-mail will not be evaluated.