

Operating System- CS604

Assignment # 4

Spring 2011

Marks: 20

Due Date

Your assignment must be uploaded before or on **1, July 2011**

Uploading instructions:

Please view the **Assignment Submission Process** document provided to you by the Virtual University for uploading assignments.

- Assignment should be in .doc format.
- Save your assignment with your ID (e.g. bx020200786.doc).
- Assignment submission through email is highly discouraged.

Rules for Marking:

It should be clear that your assignment will not get any credit if:

- The assignment is submitted after due date.
- The submitted assignment file is corrupted.
- The assignment is copied.

Note:

Your answer must follow the below given specifications. **You will be assigned zero marks if you do not follow these instructions.**

- Font style: "Times New Roman"
- Font color: "Black"
- Font size: "12"
- **Bold** for heading only.
- Font in *Italic* is not allowed at all.
- No formatting or bullets are allowed to use.

Question 01:

A computer system has a 32-bit virtual address space with a page size of 4K and 8 bytes per page table entry.

1. How many pages can be in the virtual address space?
2. What is the maximum size of addressable physical memory in this system?

Question 02:

A small computer has four page frames. The LRU hardware can maintain a matrix of 4 x 4 bits, initially all zero. You should use the LRU (least Recently Used) algorithm as a page replacement policy, if the pages are referenced with the following sequence [0, 1, 3, 3, 2, 0, 1, 2, 3, 1]. You should give the state of the matrix step by step till all the given pages are referenced?

	0	1	2	3
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0

(I)