Assignment 6: Memory Management Unit (MMU)

Marks:50

Goal:- The goal of this assignment is to implement address translation via MMU unit studied in the class. Implement these algorithms in C/C++.

Details:- Write a C/C++ program for address translation via MMU unit. Assumes memory is a byte addressable memory. You will be give Logical address space size, Main memory size and Page size as an input to your program. Your program should be interactive with switch cases. On providing the program size It will give number of pages of that particular process followed by perform random allocation inside main memory. On requesting address for any address it should return frame number in the main memory.

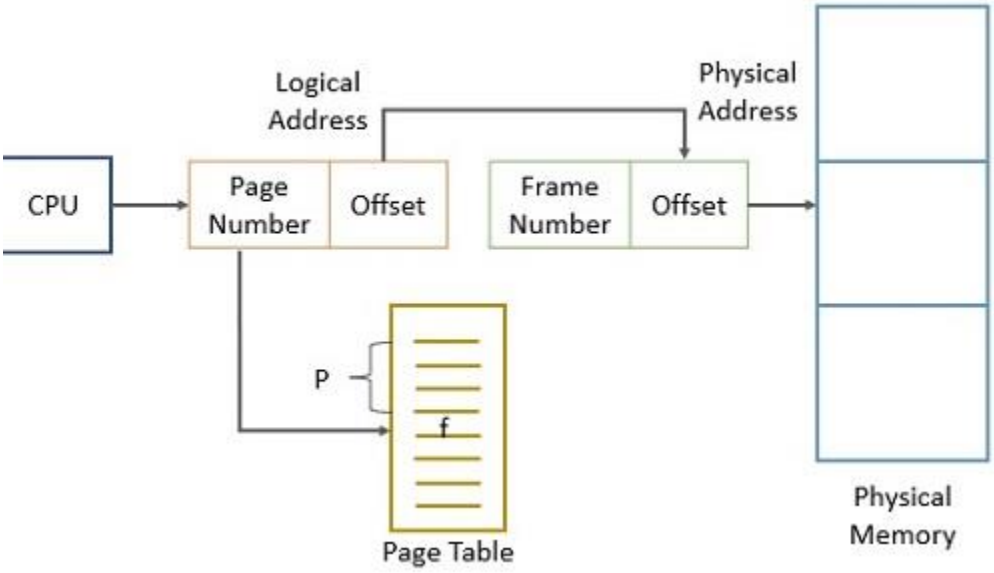
Your interactive input should be:

1. process size (bytes)
2. Logical address (bits)

You output should be as following values:

1. Logical address Bits =
2. Page Number Bits =
3. Page offset bits =
4. Physical Address Bits =
5. frame number bits =
6. frame offset bits =
7. Total number of pages in the Logical Address Space
8. Total Number of frames can be allocated in Main memory

Hint: Frame size is always equal to the Page Size.



Submission Format:- You have to upload: (1) The source code in the following format: Assgn6-<RollNo>.c (2) Readme: Assgn6Readme-<RollNo>.txt, which contains the instructions for executing the programs. (3) Report: Assgn6Report-<RollNo>.pdf. **Don't zip any of your documents.** Upload all the documents on the blackboard.

Note: Please follow this naming convention mentioned above.

Grading Policy:- The policy for grading this assignment will be - (1) Design as described in the report and analysis of the results: 50% (2) Execution of the tasks based on the description in the readme: 40% (3) Code documentation and indentation: 10%.

Please note:

- All assignments for this course have a late submission policy of a penalty of 10% each day after the deadline of six days. After that, it will not be evaluated.
- **All submissions are subject to plagiarism checks.** Any case of plagiarism will be dealt with severely.