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Assignment Set 3 (Uploaded on August 14, 2014)
Clarification deadline date: August 18, 2014
Submission deadline date:  August 21, before lab starts


Problem 1:
Write a C program that takes as input a positive number -- row, and
allocates space dynamically for an array A of real numbers of size
rowXrow using pointer to pointer. Take input into A from the user.
Your program should compute A^(-1), the inverse of the matrix A.
Your program should also verify the correctness by multiplying
A and A^(-1) to get the identity matrix.

Problem 2:
Write a C program to do the following. Let X be a static array of size
1,00,000 bytes. An user can block some space in X or free some already
booked space. While booking, the user would specify the data type for
which he wants to book (e.g. char, int, float, double, etc.) and the number
of such spaces. Each time an user blocks a space, an id is assigned to
the booking. At any point of time the user can book space, if available
or free already booked space corresponding to any previously booked id.
After each booking or freeing of space, show what is the amount of total
free space. Also show how many chunks of free spaces are available and
the sizes of each of  them.

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Naming conventions for program files. xx is your roll number:

For Problem 1:
The name of the src file for problem 1 of assignment 3 should be
``cs14xx-assign3-src-prog1.c''.

The name of the app file for problem 1 of assignment 3 should be
``cs14xx-assign3-prog1.c''.

The name of the include file for problem 1 of assignment 3 should be
``cs14xx-assign3-prog1.h''.


For Problem 2:
The name of the src file for problem 2 of assignment 3 should be
``cs14xx-assign3-src-prog2.c''.

The name of the app file for problem 2 of assignment 3 should be
``cs14xx-assign3-prog2.c''.

The name of the include file for problem 2 of assignment 3 should be
``cs14xx-assign3-prog2.h''.

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At the top of each of your program files, add the following. If you are
writing multi-file programs, then each file should have it.

 /*-------------------------------------------------------------
Name:
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  Roll Number:
  Date of Submission:
  Deadline date:
  Program description:
  Acknowledgements:
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