Department of Computer Science Forman Christian College (A Chartered University) Lahore



SYSTEM PROGRAMMING COMP 440

Assignment 01 C Programming

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Roll Number:

Date:

Submission Date: March 18, 2015 (In Class)

Important Note: This assignment will be helpful in your lab task on Mar 18, 2015. Make sure you should have a soft copy of your code in the lab.

Write a program that can multiply two mxn matrices. User should provide size of the matrices to be multiplied. Your main program should

- First prompts user for the size of the matrices, and validates the size.
- Then should populate the matrices using a double for loop.
- Display the input matrices in an appropriate format.
- Determine the size of the output matrix, create it and initialize it with zeros.
- Call a function that can multiply matrices by passing both the input as well as the output matrices.

The functions used in your program are given as:

- 1) To obtain size of the matrices void get_size(int *, int *)
- 2) To populate matrices with some random numbers

void populate matrix(int *mat[],int *outmat[],int r int c)

- 3) To display a matrix on screen void display matrix(int *mat[])
- 4) To check whether or not matrices can be multiplied, we use the function int iscompatible(int r1, int c1, int r2, int c2)
- 5) To multiply matrices

void mat mul(int *mat1,int *mat2, int *mat3,int r1, int c1,int r2, int c2)

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```
Your main should look like this:
int main()

{

    Get size of both matrices
    Authenticate sizes
    Populate both matrices using random numbers between 1 and 9. Use n=rand()%10+1 to generate random number between 1 and 9
    Display both matrices.
    Multiply matrices
    Display output
}
```

Submission Instructions:

- Submit your code in hard copy format.
- This hand out should be attached as cover page.
- You must not share your code with your fellow students. Any such attempt will cost you a zero grade in the assignment.