

Problem 16. (6 points):

Consider the following code fragment containing the incomplete definition of a data type `matrix_entry` with 4 fields.

```
struct matrix_entry{  
    ____ a;  
    ____ b;  
    int c;  
    ____ d;  
};  
  
struct matrix_entry matrix[2][5];  
  
int return_entry(int i, int j){  
    return matrix[i][j].c;  
}
```

Complete the above definition of `matrix_entry` so that the following assembly code could be generated from it on a Linux/x86 machine:

```
return_entry:  
    pushl %ebp  
    movl %esp,%ebp  
    movl 8(%ebp),%eax  
    leal (%eax,%eax,4),%eax  
    addl 12(%ebp),%eax  
    sall $4,%eax  
    movl matrix+4(%eax),%eax  
    movl %ebp,%esp  
    popl %ebp  
    ret
```

Notes

- Note that there are multiple correct answers.
- Choose your answers from the following types, assuming the following sizes and alignments:

Type	Size (bytes)	Alignment (bytes)
char	1	1
short	2	2
int	4	4
double	8	4