

CS 2073-002 Computer Programming with Engineering Applications

Fall 2009

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Homework 7

Due by Nov 13 (Friday), 2009 (5:00pm)

!!!! NO LATE HOMEWORK WILL BE ACCEPTED !!!

Total 50 points

HW Question: (functions, loop, if-else)

First write a function that evaluates the following formula and returns total to the caller.

$$total = \binom{n}{0} - 2\binom{n}{1} + 3\binom{n}{2} - \dots + (-1)^n (n+1)\binom{n}{n}$$

Then your main program will call that function for $n = 2, 4, 6, 8$ and print the result for each n .

When implementing this program, you can use the following two functions that we implemented in class so copy/paste them into your program.

```
-----  
int fac(int z)  
{  
    int i;  
    int res = 1;  
    for(i=1; i<=z; i++){  
        res = res * i;  
    }  
    return res;  
}  
int select(int n, int k)  
{  
    return fac(n)/(fac(k)*fac(n-k));  
}
```

What to return: !!!! NO LATE HOMEWORK WILL BE ACCEPTED !!!

Save your program as `hw7.c`, run it for the given `input7.txt` file. The results should be saved into `output7.txt`. THEN, **go to WebCT**, and submit your files **hw7.c**, and **output7.txt** before the deadline. When you are writing your C program, don't forget to include `/* COMMENTS */`