C Programming (con't)

1. Add Prologue Comments to this C program, which include:
   - Brief description of the program
   - Inputs
   - Output
2. Add comments on every line.
3. If the user enters the number 6, what will the output be?

```c
#include <stdio.h>
int main() {
    int n, i, a = 0, b = 1, nextTerm;
    printf("Enter the number of terms: ");
    scanf("%d", &n);
    printf("Fibonacci Series: ");
    printf("%d %d ", a, b);
    for (i = 3; i <= n; ++i) {
        nextTerm = a + b;
        printf("%d ", nextTerm);
        a = b;
        b = nextTerm;
    }
}
```

1. .

   1. Description: Takes a user integer input n, prints out n terms of the Fibonacci sequence
   2. Inputs: User input n, initialized a =0, b =1
   3. Outputs: Command line output displaying Fibonacci sequence up to n terms

2. .

```c
#include <stdio.h>
int main() {
    int n, i, a = 0, b = 1, nextTerm;  // initializes int n, i, a top b to 0
    printf("Enter the number of terms: ");  // prints "Enter the number of terms: "
    scanf("%d", &n);  // takes user terminal input, %d reading int, assigned to n
    printf("Fibonacci Series: ");  // prints "Fibonacci Series: "
    printf("%d %d ", a, b);  // prints "a, b"
    for (i = 3; i <= n; ++i) {  // starts at 3 because we have the first
                                // terms, loops until i is greater than n
        nextTerm = a + b;  // adds a and b into nextTerm
        printf("%d ", nextTerm);  // prints nextTerm
        a = b;  // shifts b to a
        b = nextTerm;  // shifts nextTerm to equal b
    }
}
```

3. 0, 1, 1, 2, 3, 5