Name: _____   UCID: _____

Worksheet 0x0b

```c
# this is factorial.c

int factorial(int n)
{
        if (n != 0)
        {
                return n*factorial(n-1);
        }
        else
        {
                return 1;
        }
}

int main(int argc, char * argv[])
{
        return factorial(3);
}
```

1. The code listing above shows a naive implementation of the factorial function in C. Draw the stack when the program execution reaches line 11.

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2. **Think-pair-share activity**: Suggest an input that will make the binary produced by compiling `overflow3.c` print `password matches!`, and provide a 2-3 sentence explanation for how/why it works.