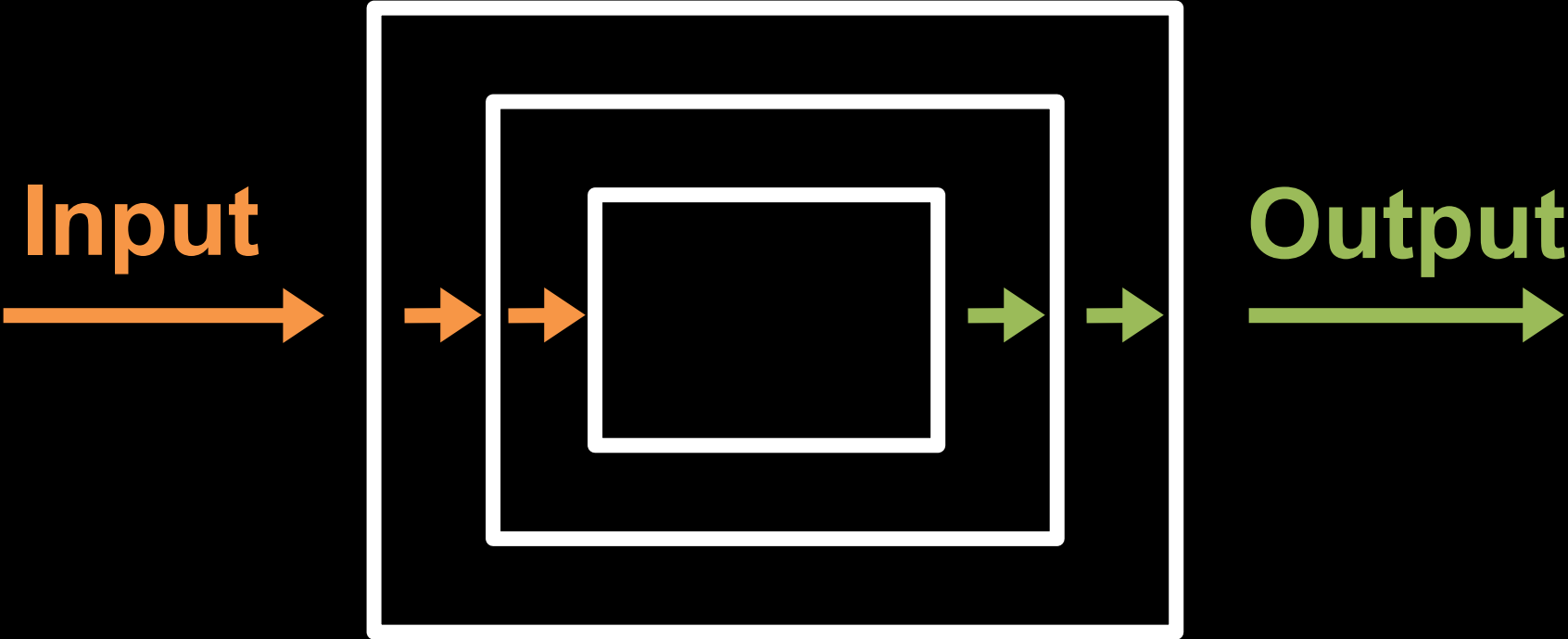
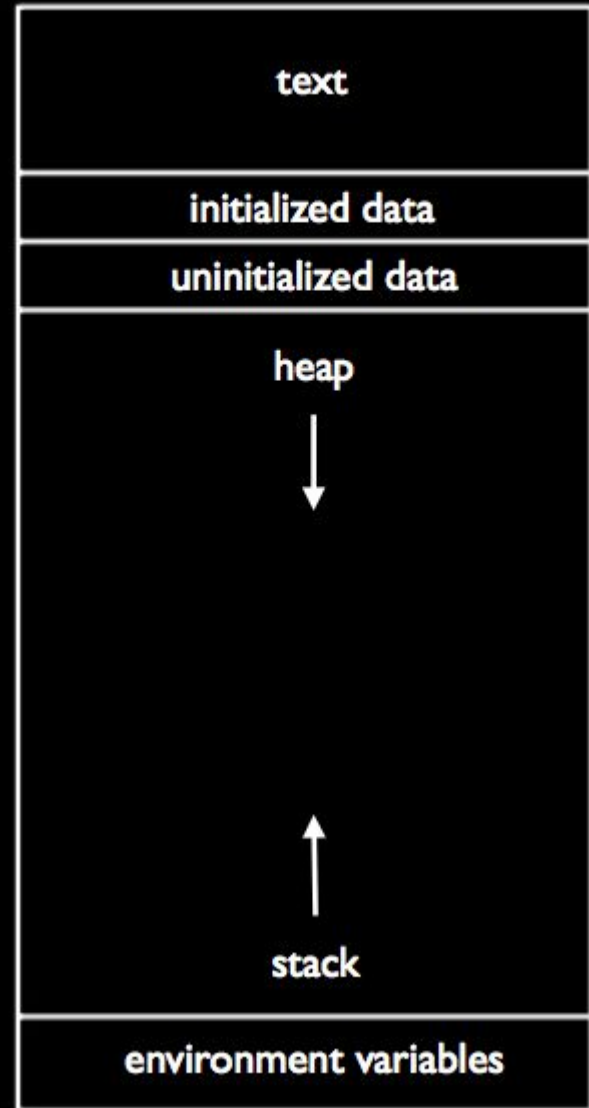


Recursion



Recursion w/out a Base Case

```
void foo(string str)
{
    printf("%s\n", str);
    foo(str);
}
```



Factorial

$$n! = n * (n - 1) * (n - 2) * \dots * 1$$

```
unsigned int factorial(unsigned int n)
{
    if (n <= 1)
    {
        return 1;
    }
    else
    {
        return n * factorial(n - 1);
    }
}
```

$$\begin{aligned} \text{factorial}(3) &= 3 * \text{factorial}(2) \\ &\quad \underbrace{\hspace{10em}} \\ &= 2 * \text{factorial}(1) \\ &\quad \underbrace{\hspace{5em}} \\ &= 1 \end{aligned}$$

