

Use the code below to answer the following questions.

```
myFunc(n) :  
    if n=0 or n=1 return 1  
    return myFunc(n-1) + 2 * myFunc(n-1) + myFunc(n-2)
```

1) Assuming all arithmetic can be done in hardware, find an asymptotic upper bound on the runtime of this algorithm.

2) Exactly how many function calls does this make for an input of  $n = 4$ ?