

## CS 372 Recursion Problems

7.)  $f('a', 'e')$   
 $\swarrow$  return  $f(ch1+1, ch2-1) + 2$   
 return  $f(b, d) + 2$   
 return  $f(c, c) + 2$  returns 6  
 return  $f(d, b) + 2$   
 $ch1 > ch2$  return 0  $\uparrow$

$f('h', 'e')$   
 returns 0  
 returns 0

11.) Returns the factorial of a number  $n$   $n!$

12.) Sum of digits from  $n$  to 0

13.) Largest power of 2 that will go into a number

Function divides a number by 2 and gives result  $S' = S/2$

14.) Sum of all digits in a number

i.e.  $1422 \rightarrow 1 + 4 + 2 + 2 = 9$

15.) This function returns the first ~~two~~ digit in a number

i.e.  $1422 \rightarrow \boxed{1}422 = 1$