The function `void printFactorial(int val)` calculates and prints out the factorial of a number. For example, the factorial of 4 is 24: it is given by $4 \times 3 \times 2 \times 1$.

(a) Write a main function that prints out the factorials for the numbers 1 through 20 (using the function).

(b) Write the code for the `printFactorial` function.