CMSC330 Spring 2016 Quiz #5

Name: _____

Discussion Time:	10am	11am	12pm	1pm	2pm	3pm
TA Name (Circle):	Adam	Anshul	Austin	Ayman	Damien	
	Daniel	Jason	Michael	Patrick	William	

Instructions:
- Do not start this test until you are told to do so!
- You have 15 minutes for this quiz.
- This is a closed book exam. No notes or other aids are allowed.
- For partial credit, show all of your work and clearly indicate your answers.
- Write neatly and erase cleanly. Credit cannot be given for illegible answers.

1) (8 pts) Answer three of the four multiple choice questions.
   a. Which of the following languages is most vulnerable to a buffer overflow exploit?
      i. Java
      ii. Ruby
      iii. **C**
      iv. OCaml
   b. If you are using user input as a path to retrieve a file, how can you whitelist the input to avoid exploits?
      i. Reject input strings that contain problematic characters
      ii. Delete problematic characters from input strings
      iii. Escape problematic characters from input strings
      iv. **Only accept paths to existing files**
   c. Which of the following is not considered a good security practice?
      i. Limiting user privilege
      ii. **Obfuscating security flaws**
      iii. Sandboxing system components
      iv. Defaulting to secure fail-safes
   d. Prepared statements are typically used to fight which of following attacks?
      i. Buffer overflows
      ii. XSS attacks
      iii. Rubber-Hose cryptanalysis
      iv. **Command Injection**

2) (7 pts) Write a recursive rule called sublist that given a list and two numbers returns the sub list between those indices. See the example for how sublist should function. You may use helper functions and assume proper input.

?- sublist([4,2,3,1],0,0,R).   ?-sublist[5,4,7,6],0,2,R).   ?-sublist([8,3,7,4,3],1,4,R).

    R = [4]   R=[5,4,7]   R=[3,7,4,3]

sublist([H|T],0,0,[H]).

sublist([H|T],0,M,[H|R]) :-
    M > 0,
    M1 is M – 1,
    sublist(T,0,M1,R).

sublist([H|T],N,M,R) :-
    M > 0,
    N > 0,
    N1 is N – 1,
    M1 is M – 1,
    sublist(T,N1,M1,R).

2 points for each rule
Full credit for anything that works