

CS 457 Homework 3: Loops
for Wed Sep 9 2026

These are some suggestions to help you prepare for quiz 3. For some of these, you will probably want to use built-in Python functions beyond those we've discussed in class: consult AI or the online Python docs (just like a working data scientist would).

1. Assign x to the cost of a meal. Print a recommended tip amount.
2. Write code that prints x^3 for $x \in \{1, 2, 3, 4, 5\}$.
3. Assign x to be some potential password a user wants to use. Test the password to see if it is a bad one, such as "password", "abcdef", "qwerty", or "12345". If it is, print "bad password". Otherwise, print "No problem detected!".
4. As in previous example, but this time a bad password is one that doesn't contain at least one uppercase letter, one lowercase letter, and one digit, and is at least 8 characters long.
5. Write code that computes the 'scrabble score' of a word. In scrabble, each letter is worth a certain number of points: aeioulnstr get 1, dg get 2, bcmp 3, flvwyz get 4, k gets 5, jx 8, and qz 10. Be sure to test your code on several examples to be sure it works correctly!
6. Write code that prints the mean of a list of numbers.
7. Also print the min and max.
8. Compute the median! Don't forget to handle the case of an odd number of numbers. Again, be sure to test on several examples.