

## Extra Credit 2

**Due:** October 26, 2023

**Points:** 24

1. (20 points) In the *make\_change.py* program, change the output to reflect the following:
  - (a) If there is exactly 1 quarter, dime, nickel, or penny, your output uses the singular for the coin
  - (b) If there is more than 1 quarter, dime, nickel, or penny, your output uses the plural for the coin
  - (c) If there are no quarters, dimes, nickels, or pennies, do not print that coin
  - (d) If a non-positive integer, or a non-integer, is entered, give the error message “bad input; must be a positive integer” and quit
  - (e) If there are two different types of coins, put an “and” between them
  - (f) If there are three or more types of coins, put a comma after each type of coin except the last, and put an “and” between the last two types of coins.

*To turn in:* Please turn in the program in the file *new\_make\_change.py*.

*Examples:*

Amount of change: 92

92 cents is 3 quarters, 1 dime, 1 nickel, and 2 pennies

Amount of change: 16

16 cents is 1 dime, 1 nickel, and 1 penny

Amount of change: 15

15 cents is 1 dime and 1 nickel

Amount of change: 30

30 cents is 1 quarter and 1 nickel

Amount of change: 34

34 cents is 1 quarter, 1 nickel, and 4 pennies

Amount of change: 1

1 cent is 1 penny