

```

# Elizabeth Rozzelle
# July 12, 2025
# P5LAB
# This program simulates a self-checkout machine that calculates and breaks down the change owed to the customer into denominations.

import random

def disperse_change(change):
    cents = round(change * 100) # Convert to cents to avoid float issues

    # Calculate each denomination using integer division and modulo
    dollars = cents // 100
    cents = cents % 100

    quarters = cents // 25
    cents = cents % 25

    dimes = cents // 10
    cents = cents % 10

    nickels = cents // 5
    cents = cents % 5

    pennies = cents

    # Print the denominations
    if dollars > 0:
        print(f"{dollars} Dollar{'s' if dollars > 1 else ''}")
    if quarters > 0:
        print(f"{quarters} Quarter{'s' if quarters > 1 else ''}")
    if dimes > 0:
        print(f"{dimes} Dime{'s' if dimes > 1 else ''}")
    if nickels > 0:
        print(f"{nickels} Nickel{'s' if nickels > 1 else ''}")
    if pennies > 0:
        print(f"{pennies} Penn{'ies' if pennies > 1 else 'y'}")

def main():
    # Generate random purchase amount
    amount_owed = round(random.uniform(0.01, 100.00), 2)
    print(f"You owe ${amount_owed:.2f}")

    # Prompt user for cash
    cash_given = float(input("How much cash will you put in the self-checkout? "))

    change = round(cash_given - amount_owed, 2)

    if change < 0:
        print(f"Insufficient payment. You still owe ${-change:.2f}")
    elif change == 0:
        print("No change owed. Thank you!")
    else:
        print(f"Change is: ${change:.2f}")
        disperse_change(change)

# Run the program
main()

input("Press Enter to exit...")

```