"""

Capitalist Conrad wants a stock price simulator for a volatile stock.

The price starts off at $10.00, and, at the end of every day there is

a 50% chance it increases by 0 to 10%, and

a 50% chance that it decreases by 0 to 5%

If the price rises above $1000, or falls below $0.01, the program should end.

The price should be displayed to the nearest cent (e.g. $33.59, not $33.5918232901)

"""

import random

MAX\_INCREASE = 0.1 # 10%

MAX\_DECREASE = 0.05 # 5%

MIN\_PRICE = 0.01

MAX\_PRICE = 100.0

INITIAL\_PRICE = 10.0

OUTPUT\_FILE = "stock\_output.txt"

out\_file = open(OUTPUT\_FILE, 'w')

price = INITIAL\_PRICE

day = 0

print("Starting price: ${:,.2f}".format(price), file=out\_file)

while price >= MIN\_PRICE and price <= MAX\_PRICE:

price\_change = 0

day += 1

# generate a random integer of 1 or 2

# if it's 1, the price increases, otherwise it decreases

if random.randint(1, 2) == 1:

# generate a random floating-point number

# between 0 and MAX\_INCREASE

price\_change = random.uniform(0, MAX\_INCREASE)

else:

# generate a random floating-point number

# between negative MAX\_DECREASE and 0

price\_change = random.uniform(-MAX\_DECREASE, 0)

price \*= (1 + price\_change)

# print("On day {} price is: ${:,.2f}".format(day, price))

print("On day {} price is: ${:,.2f}".format(day, price), file=out\_file)

out\_file.close()

"""

CP1404/CP5632 - Practical

Answer the following questions:

1. When will a ValueError occur?

2. When will a ZeroDivisionError occur?

3. Could you change the code to avoid the possibility of a ZeroDivisionError?

"""

try:

numerator = int(input("Enter the numerator: "))

denominator = int(input("Enter the denominator: "))

fraction = numerator / denominator

print(fraction)

except ValueError:

print("Numerator and denominator must be valid numbers!")

except ZeroDivisionError:

print("Cannot divide by zero!")

print("Finished.")

"""

CP1404/CP5632 - Practical

Fill in the TODOs to complete the task

"""

finished = False

result = 0

while not finished:

try:

result = int(input("Enter a valid integer:"))

finished = True

except ValueError:

print("Please enter a valid integer.")

print("Valid result is:", result)

MIN\_LENGTH = 2

MAX\_LENGTH = 6

SPECIAL\_CHARS\_REQUIRED = False

SPECIAL\_CHARACTERS = "!@#$%^&\*()\_-=+`~,./'[]<>?{}|\\"

def main():

print("Please enter a valid password")

print("Your password must be between", MIN\_LENGTH, "and", MAX\_LENGTH,

"characters, and contain:")

print("\t1 or more uppercase characters")

print("\t1 or more lowercase characters")

print("\t1 or more numbers")

if SPECIAL\_CHARS\_REQUIRED:

print("\tand 1 or more special characters: ", SPECIAL\_CHARACTERS)

password = input("> ")

while not is\_valid\_password(password):

print("Invalid password!")

password = input("> ")

print("Your " + str(

len(password)) + " character password is valid: " + password)

def is\_valid\_password(password):

if len(password) < MIN\_LENGTH or len(password) > MAX\_LENGTH:

return False

count\_lower = 0

count\_upper = 0

count\_digit = 0

count\_special = 0

for char in password:

if char.isdigit():

count\_digit += 1

elif char.islower():

count\_lower += 1

elif char.isupper():

count\_upper += 1

elif char in SPECIAL\_CHARACTERS:

count\_special += 1

if count\_lower == 0 or count\_upper == 0 or count\_digit == 0:

return False

if SPECIAL\_CHARS\_REQUIRED:

if count\_special == 0:

return False

return True

main()

name = "Gibson L-5 CES"

year = 1922

cost = 16035.4

print("My guitar: " + name + ", first made in " + str(year))

print("My guitar: {}, first made in {}".format(name, year))

print("My guitar: {0}, first made in {1}".format(name, year))

print("My {0} was first made in {1} (that's right, {1}!)".format(name, year))

print("My {} would cost ${:,.2f}".format(name, cost))

numbers = [1, 19, 123, 456, -25]

for i in range(len(numbers)):

print("Number {0} is {1:>5}".format(i + 1, numbers[i]))

for i, number in enumerate(numbers):

print("Number {0} is {1:>5}".format(i + 1, number))

for number in range(0, 101, 50):

print("{:3}".format(number))

import random

#Line 1 : Smallest : 5, Largest = 20

print(random.randint(5, 20))

#Line 2 : Smallest = 3, Largest = 9, Can't produce number 4

print(random.randrange(3, 10, 2))

#Line 3 : Smallest = 2.5, Largest = 5.5

print(random.uniform(2.5, 5.5))

#random Number between 1 and 100

print(random.randint(1,100))

"""

CP1404/CP5632 - Practical

Random word generator - based on format of words"""

import random

VOWELS = "aeiou"

CONSONANTS = "bcdfghjklmnpqrstvwxyz"

word\_format = "ccvcvvc"

word = ""

for kind in word\_format:

if kind == "c":

word += random.choice(CONSONANTS)

else:

word += random.choice(VOWELS)

print(word)