CP1404 practical 3

import random  
  
def main():  
 out\_file = open("results.txt", "w")  
 score = random.randint(0, 100)  
 print("Your score is {}".format(score),"your result is:", result(score), file=out\_file)  
  
  
def result(score):  
 if 90 <= score <= 100:  
 score = "Excellent"  
 return score  
 elif 50 <= score < 90:  
 score = "Passable"  
 return score  
 elif score < 50:  
 score = "Bad"  
 return score  
  
  
main()

def main():  
 lower = 10  
 upper = 50  
 number = get\_number(lower, upper)  
  
 while number < lower or number > upper:  
 print("Only between 10 to 50!")  
 number = get\_number(lower, upper)  
 print(chr(number), "\n", "...")  
  
  
def get\_number(lower, upper):  
 error\_check = True  
 while error\_check:  
 try:  
 number = int(input("Enter a number between 10 and 50: "))  
 error\_check = False  
  
 except ValueError:  
 print("Invalid input")  
 error\_check = True  
  
 return number  
  
  
main()

def main():  
 out\_file = open("temps\_output.txt", "w")  
 in\_file = open("temps\_input.txt", "r")  
  
 for lines in in\_file:  
 fahrenheit = float(lines)  
 print("Degrees in celsius is:",fahrenheit\_to\_celsius(fahrenheit), file=out\_file)  
  
 in\_file.close()  
  
  
def fahrenheit\_to\_celsius(fahrenheit):  
 celsius = 5 / 9 \* (fahrenheit - 32)  
 return celsius  
  
  
main()

import random  
  
BORN\_LOWER = 0.01  
BORN\_UPPER = 0.02  
DIE\_LOWER = 0.05  
DIE\_UPPER = 0.25  
starting\_population = 1000  
  
  
def main():  
 print("Welcome to the Gopher Population Simulator!", "\n"  
 "Starting population: 1000", "\n"  
 "Year 1""\n")  
  
 born\_rate = random.uniform(BORN\_LOWER, BORN\_UPPER)  
 die\_rate = random.uniform(DIE\_LOWER, DIE\_UPPER)  
  
 population\_2 = starting\_population + round(starting\_population \* born\_rate) - round(starting\_population \* die\_rate)  
 born\_num\_2 = round(starting\_population \* born\_rate)  
 die\_num\_2 = round(starting\_population \* die\_rate)  
  
 population\_3 = population\_2 + round(population\_2 \* born\_rate) - round(population\_2 \* die\_rate)  
 born\_num\_3 = round(population\_2 \* born\_rate)  
 die\_num\_3 = round(population\_2 \* die\_rate)  
  
 population\_4 = population\_3 + round(population\_3 \* born\_rate) - round(population\_3\* die\_rate)  
 born\_num\_4 = round(population\_3 \* born\_rate)  
 die\_num\_4 = round(population\_3 \* die\_rate)  
  
 population\_5 = population\_4 + round(population\_4 \* born\_rate) - round(population\_4 \* die\_rate)  
 born\_num\_5 = round(population\_4 \* born\_rate)  
 die\_num\_5 = round(population\_4 \* die\_rate)  
  
 population\_6 = population\_5 + round(population\_5 \* born\_rate) - round(population\_5 \* die\_rate)  
 born\_num\_6 = round(population\_5 \* born\_rate)  
 die\_num\_6 = round(population\_5 \* die\_rate)  
  
 population\_7 = population\_6 + round(population\_6 \* born\_rate) - round(population\_6 \* die\_rate)  
 born\_num\_7 = round(population\_6 \* born\_rate)  
 die\_num\_7 = round(population\_6 \* die\_rate)  
  
 population\_8 = population\_7 + round(population\_7 \* born\_rate) - round(population\_7 \* die\_rate)  
 born\_num\_8 = round(population\_7 \* born\_rate)  
 die\_num\_8 = round(population\_7 \* die\_rate)  
  
 population\_9 = population\_8 + round(population\_8 \* born\_rate) - round(population\_8 \* die\_rate)  
 born\_num\_9 = round(population\_8 \* born\_rate)  
 die\_num\_9 = round(population\_8 \* die\_rate)  
  
 population\_10 = population\_9 + round(population\_9 \* born\_rate) - round(population\_9 \* die\_rate)  
 born\_num\_10 = round(population\_9 \* born\_rate)  
 die\_num\_10 = round(population\_9 \* die\_rate)  
  
 print(born\_num\_2, "gophers were born.", die\_num\_2, "died.""\n"  
 "Population:", population\_2, "\n"  
 "Year 2""\n")  
  
 print(born\_num\_3, "gophers were born.", die\_num\_3, "died.""\n"  
 "Population:", population\_3, "\n"  
 "Year 3""\n")  
 print(born\_num\_4, "gophers were born.", die\_num\_4, "died.""\n"  
 "Population:", population\_4, "\n"  
 "Year 4""\n")  
 print(born\_num\_5, "gophers were born.", die\_num\_5, "died.""\n"  
 "Population:", population\_5, "\n"  
 "Year 5""\n")  
 print(born\_num\_6, "gophers were born.", die\_num\_6, "died.""\n"  
 "Population:", population\_6, "\n"  
 "Year 6""\n")  
 print(born\_num\_7, "gophers were born.", die\_num\_7, "died.""\n"  
 "Population:", population\_7, "\n"  
 "Year 7""\n")  
 print(born\_num\_8, "gophers were born.", die\_num\_8, "died.""\n"  
 "Population:", population\_8, "\n"  
 "Year 8""\n")  
 print(born\_num\_9, "gophers were born.", die\_num\_9, "died.""\n"  
 "Population:", population\_9, "\n"  
 "Year 9""\n")  
 print(born\_num\_10, "gophers were born.", die\_num\_10, "died.""\n"  
 "Population:", population\_10, "\n"  
 "Year 10""\n")  
  
  
  
main()

import random  
  
  
def main():  
 out\_file = open("temps\_input.txt", "w")  
  
 i = 0  
 while i < 15:  
 i = i+1  
 temperature = random.randint(-200, +200)  
 print(temperature, file=out\_file)  
  
  
main()

#CONSTANTS  
minimum\_length = 6  
  
def main():  
 password = get\_password(minimum\_length)  
 while not len(password) >= minimum\_length:  
 password = get\_password(minimum\_length)  
 asterisks(password)  
  
  
def asterisks(password):  
 print('\*' \* len(password))  
  
  
def get\_password(minimum):  
 password = input('Please enter a password of at least {} characters: '.format(minimum))  
 return password  
  
  
main()

def main():  
 score = float(input("Enter score: "))  
 print("Your result is:", result(score))  
  
  
def result(score):  
 if score < 0:  
 score = "Invalid score"  
 return score  
 elif score > 100:  
 score = "Invalid score"  
 return score  
 elif 90 <= score <= 100:  
 score = "Excellent"  
 return score  
 elif 50 <= score < 90:  
 score = "Passable"  
 return score  
 elif score < 50:  
 score = "Bad"  
 return score  
  
  
main()

def main():  
 MENU = """C - Convert Celsius to Fahrenheit  
F - Convert Fahrenheit to Celsius  
Q - Quit"""  
 print(MENU)  
 choice = input(">>> ").upper()  
 while choice != "Q":  
 if choice == "C":  
 celsius = float(input("Celsius: "))  
 fahrenheit = celsius\_to\_fahrenheit(fahrenheit)  
 print("Result: {:.2f} F".format(fahrenheit))  
 elif choice == "F":  
 fahrenheit = float(input("fahrenheit: "))  
 celsius = fahrenheit\_to\_celsius(fahrenheit)  
 print("Result: {:.2f} C".format(celsius))  
 # *TODO: Write this section to convert F to C and display the result* # Hint: celsius = 5 / 9 \* (fahrenheit - 32)  
 # Remove the "pass" statement when you are done. It's a placeholder.  
  
 else:  
 print("Invalid option")  
 print(MENU)  
 choice = input(">>> ").upper()  
  
def fahrenheit\_to\_celsius(fahrenheit):  
 celsius = 5 / 9 \* (fahrenheit - 32)  
 return celsius  
  
  
def celsius\_to\_fahrenheit(celsius):  
 fahrenheit = celsius \* 9.0 / 5 + 32  
 return fahrenheit  
  
main()

import random  
  
VOWELS = "aeiou"  
CONSONANTS = "bcdfghjklmnpqrstvwxyz"  
word\_format = "%#\*"  
words = ""  
  
letter\_random = random.choice(word\_format)  
  
  
def main():  
 print(is\_valid\_format(words))  
  
  
def is\_valid\_format(words):  
 for kind in letter\_random.lower():  
 if kind == "%" or "\*":  
 words += random.choice(CONSONANTS)  
 return words  
 elif kind == "#":  
 words += random.choice(VOWELS)  
 return words  
 else:  
 words += words  
 return words  
  
  
main()