```python
"""CISC-121 2022F
Name: Zain Parihar
Student Number: 10219553
Email: 21zp16@queensu.ca
Date: 2022-10-05
I confirm that this assignment solution is my own work and
conforms to Queen's standards of Academic Integrity
"""
from logging import exception
from math import floor

def main():
    """This function is the main program body.
    """
    numbers_inputted = False
    while not numbers_inputted:
        try:
            input_1 = int(input("\n\nPlease input the smaller number: "))
            input_2 = int(input("Please input the larger number: "))
            if input_2 < input_1:
                raise Exception("The first number should be the smaller number.")
            else:
                numbers_inputted = True
        except ValueError:
            print("Please input integers only")
        except Exception:
            print("Please input the smaller number first.")

    print("\n-------Input-------\n")
    print(f"input one, smaller value: {input_1}")
    print(f"input two, larger value:  {input_2}")
    print("\n-------Output-------\n")

    if input_1 > 20 or input_2 < -20:
        print("Both numbers are invalid\n")
    elif input_1 < -20:
        print(f"First number ({input_1}) is invalid\n")
    elif input_2 > 20:
        print(f"Second number ({input_2}) is invalid\n")
    else:
        print("Both numbers are valid\n")

    difference = abs(input_2 - input_1)
    cycles = floor((difference - 1) / 5) + 1

    for i in range(1, cycles):
        print(str(input_1 + i*5))

main()
run_again = True
while run_again:
    try:
        user_choice = int(input("\nWould you like to run the program again?\n1. Yes\n2. No\n"))
        if user_choice == 1:
            print("\nRunning again...")
            main()
        elif user_choice == 2:
            print("\nProgram Terminated.")
            run_again = False
        else:
            raise Exception()
    except:
        print("\nPlease input either 1 or 2")
```

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\ZainP\Documents\First Year Sem 1\CISC 121\CISC 121\ASSIGNMENTS-HW> & C:/Users/ZainP/Ap
rs/ZainP/Documents/First Year Sem 1/CISC 121/CISC 121/ASSIGNMENTS-HW/A2_1_Parihar.py"


Please input the smaller number: -10
Please input the larger number: 10


-------Input-------


input one, smaller value: -10
input two, larger value:  10


-------Output-------

Both numbers are valid


-5
0
5


Would you like to run the program again?
1. Yes
2. No
0

Please input either 1 or 2

Would you like to run the program again?
1. Yes
2. No
xd

Please input either 1 or 2

Would you like to run the program again?
1. Yes
2. No
1

Running again...


Please input the smaller number: 190
Please input the larger number: saf
Please input integers only


Please input the smaller number: 19
Please input the larger number: 25


-------Input-------


input one, smaller value: 19
input two, larger value:  25


-------Output-------

Second number (25) is invalid


24

Would you like to run the program again?
1. Yes
2. No
2

Program Terminated.
PS C:\Users\ZainP\Documents\First Year Sem 1\CISC 121\CISC 121\ASSIGNMENTS-HW>
```

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"""

def count_instances(a, b):
    """This function returns the number of instances of 'b'
    in a list 'a'.
    """
    count = 0
    for i in range(len(a)):
        if b == a[i]:
            count += 1
    return count


friend_file = open("C:\\Users\\ZainP\\Downloads\\friendship.txt")
friend_list = friend_file.read().split()

print("Question 2:\n")
print("--------Input--------\n")
print_file = open("C:\\Users\\ZainP\\Downloads\\friendship.txt")
print(print_file.read())
print("\n--------Output--------\n")


# friend_complete is a list that stores each name that has already been counted
friend_complete = []

for i in range(len(friend_list)):
    current_name = friend_list[i]
    if count_instances(friend_complete, current_name) == 0:
        friend_count = count_instances(friend_list, current_name)
        if friend_count == 1:
            print(f"{current_name} has {friend_count} friend.")
        else:
            print(f"{current_name} has {friend_count} friends.")
        friend_complete.append(current_name)
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER

```
Question 2:

--------Input--------

Michael Amy
Anna     Max
Aiden    Anna
John     Michael
Max      Aiden
Amy      Anna
John     Alice
Alice    Anna
Max      Michael
Mia      Amy
Aiden    Mia

--------Output--------

Michael has 3 friends.
Amy has 3 friends.
Anna has 4 friends.
Max has 3 friends.
Aiden has 3 friends.
John has 2 friends.
Alice has 2 friends.
Mia has 2 friends.
```