Republic of the Philippines
**RIZAL TECHNOLOGICAL UNIVERSITY**
Cities of Mandaluyong and Pasig

**COLLEGE OF ENGINEERING, ARCHITECHTURE AND**

# COMPUTER PROGRAMMING 1

# (ITC111L)

## RAFFLE PROGRAM

**GRADE**

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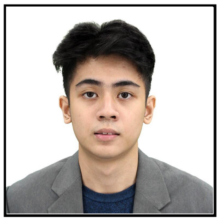

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Date of Defense

## I. INTRODUCTION

Christmas is around the corner. With Christmas being a time of giving and joy, many organizations and individuals use randomized giveaway or exchange gift programs to spread cheer and surprise lucky winners with gifts and prizes. That's why we decided to make a raffle program. It is a program that uses an Excel database to store data (name, email, and wishlist). This type of program is often used for contests, sweepstakes, and other promotions where a prize is awarded to a randomly selected participant and can also be used for the pairings in exchanging gifts.

## II. DESCRIPTION OF THE PROJECT

A raffle program is a type of computer program or system that is used to randomly select a winner from a pool of eligible entrants. The selection process is typically automated using specialized algorithms to ensure that it is fair and unbiased. The program consists the following features; Excel database, strict input conditions, less error prone code, raffle feature or exchange gift feature, and able to generate from console new excel file. While running the program, you will be allowed to locate an existing file that contains the following information (name, email, and wishlist). If there are no existing files, you can create it through the system then choosing the number of participants and listing the following data (name, email, and wishlist for raffle) according to the total number of participants listed. After opening/creating the excel file, the program will ask if you want to proceed to the raffle. If no, the program will politely end. However, if yes then the program will ask what you want to run (raffle or exchange gift). If you select raffle, it will load the file and automatically select the winner and display the name altogether with the email for notification and the wishlist of the winner. If you select exchange gift, the list of pairings will be displayed. Everybody will each have one person to gift and another person who will gift you.

## III. OBJECTIVES

The main objective of the program is to ensure a fair, unbiased, and easier raffling program.

1. To develop a program using C++ that enables to randomize the given data of the user.
2. To successfully run the program with excel as the database.
3. To randomly pair (for exchange gift)/choose in (for raffle) the given names.

## IV. SIGNIFICANCE OF THE STUDY

A raffle program is designed to provide a fair and transparent selection process that ensures all eligible entrants have an equal chance of winning. Another important factor to consider is the immediacy of it. The relevance of a raffle program is also worth considering since it provides a simple and efficient way to conduct promotions and contests. It allows organizers to automate the selection process and ensures that it is fair and unbiased, which can help to increase participation and engagement among potential entrants. The organizers of promotions and contests, as well as contest participants, benefit from the program. The ability to provide a fair and impartial selection process for promotions and competitions is one potential contribution of a raffle program to the body of knowledge.

A raffle program can also save time and lower the risk of fraud or error by automating the selection process, which can be beneficial for both the organizers and the participants. The probable repercussions of it are also worth addressing. Additionally, by automating the selection process, it can save time and effort for organizers and participants, which can be valuable for both parties. Generally speaking, the use of a raffle program can provide valuable benefits for both organizers and participants, promoting fairness and transparency in the selection process and saving time and effort.

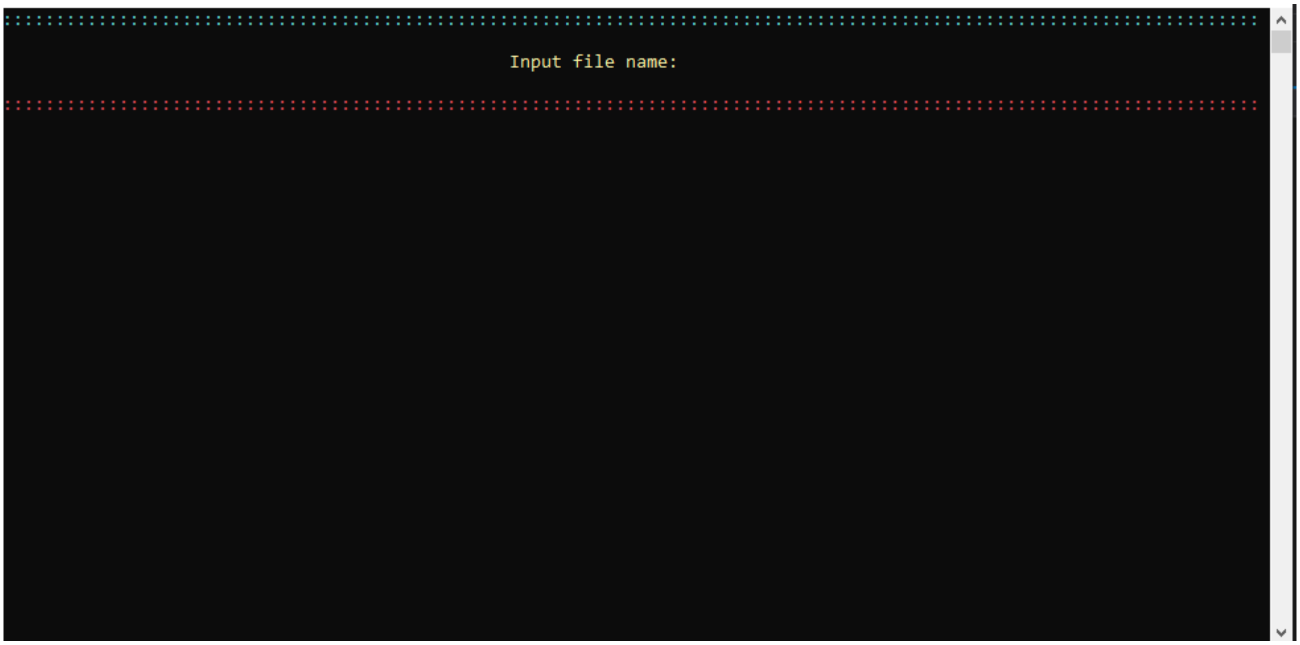
## V. Scope and Delimitations

Our system provides a fair and balanced selection process. Its sole purpose is to evenly distribute the probability of winning the said giveaway/gift. The system will only accumulate/acknowledge data that is being requested by it.

The system however has its limitations. The following are the said limits:

1. The minimum number of participants is 2 and the maximum number is 100.
2. The system does not notify/automatically email the winner as the email will only be displayed for manual contact.
3. The type of file is only limited to Excel. Other types won't be readable.
4. The program has no control over what sheet within the excel file will be used. Instead, the first sheet is going to be read by default.
5. The user data that are larger than the scope of the console would be hidden from the user.
6. The Program is not capable of updating or modifying existing excel files. Instead, it creates a new sheet and saves it as a new.

## VI. SCREEN OUTPUT

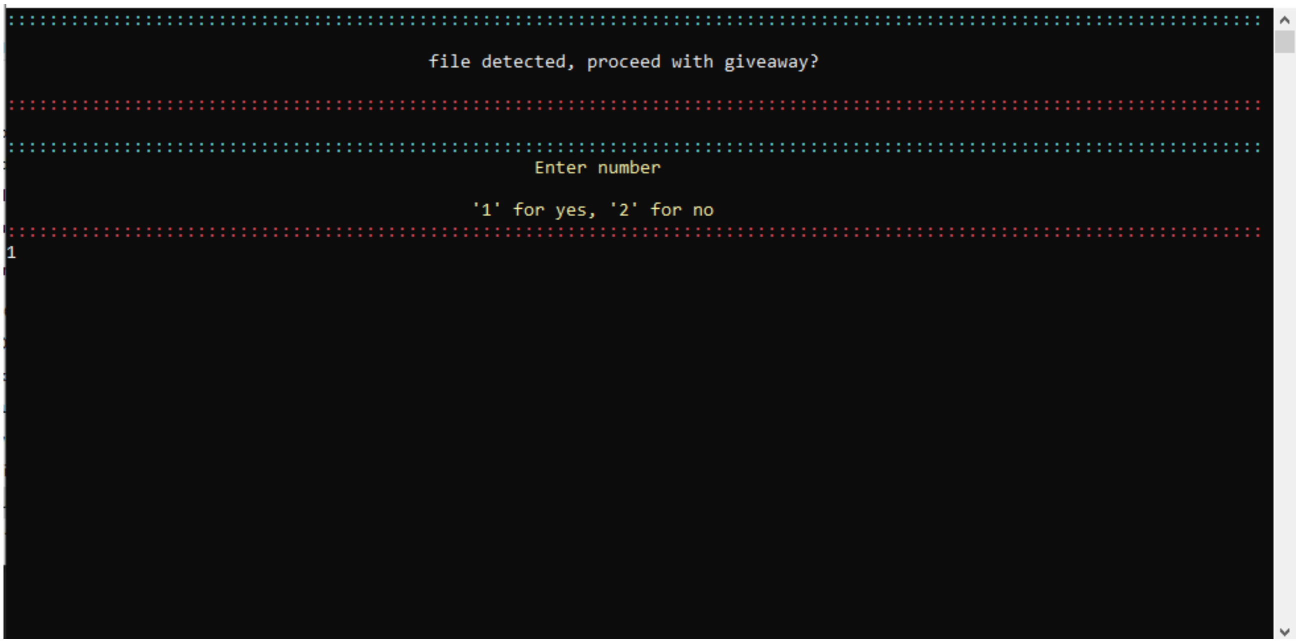


```
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                                   Input file name:

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
```

**Figure 1. Input File Name**

Figure 1. Shows the beginning part of the program where it asks for a file name from the user.

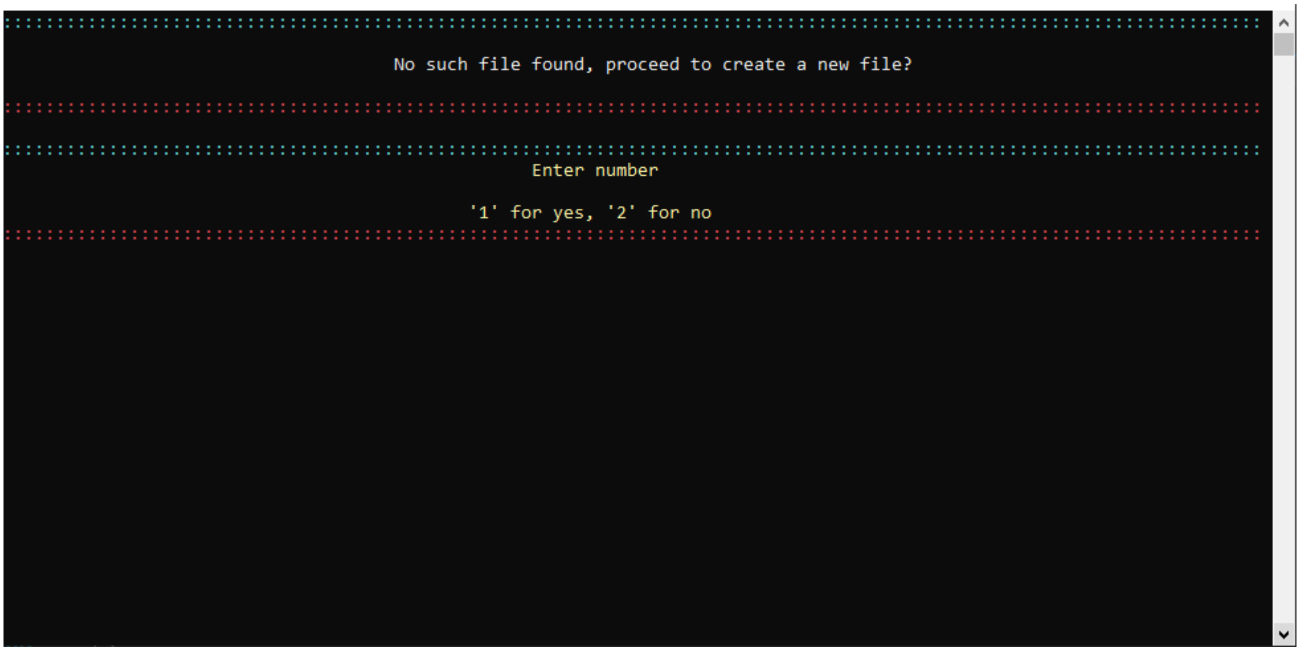
- If the filename exists, it directs to **Figure 2A.**
- If the filename does not exist, it directs to **Figure 2B.**



```
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                         file detected, proceed with giveaway?

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
                                     Enter number

                                '1' for yes, '2' for no
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
1
```

**Figure 2A. File Detected Menu**

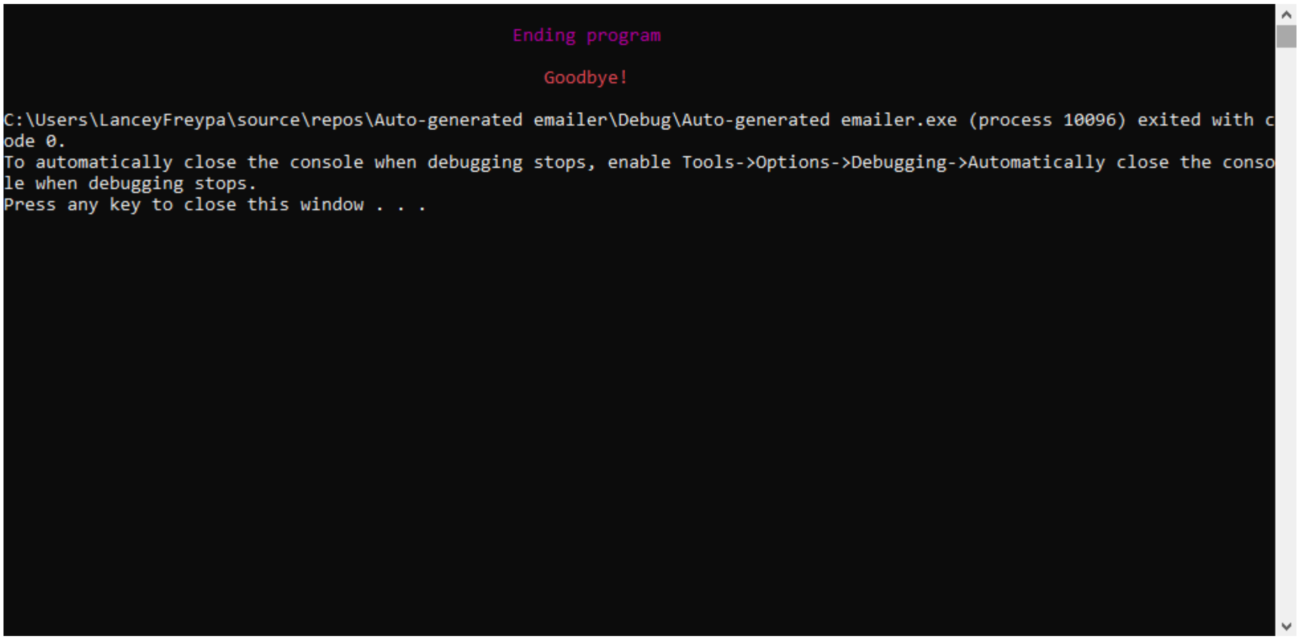
- **1,** would direct to **Figure 4.**
- **2,** would direct to **Figure 3.**
- **Other Input,** would direct to **Figure 9.**



```
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                                      No such file found, proceed to create a new file?

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
                                                   Enter number

                                             '1' for yes, '2' for no
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
```

**Figure 2B. No File Detected Menu**

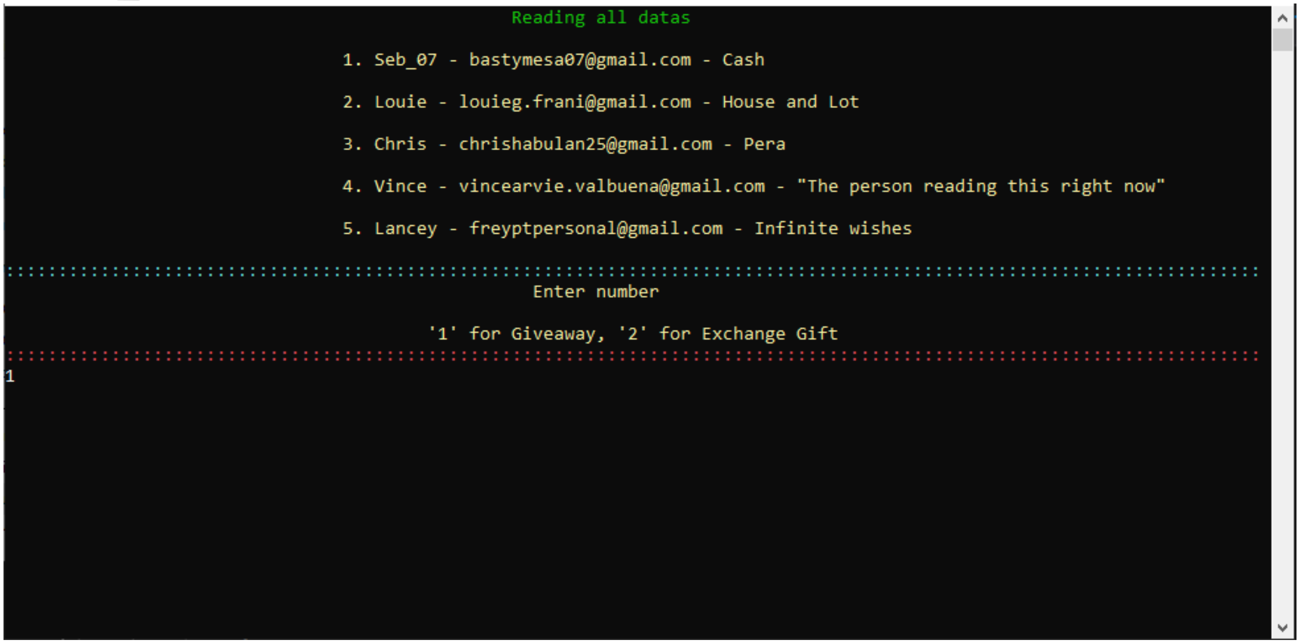
- **1,** would direct to **Figure 6.**
- **2,** would direct to **Figure 3.**
- **Other Input,** would direct to **Figure 9.**



```
                                                     Ending program

                                                        Goodbye!

C:\Users\LanceyFreypa\source\repos\Auto-generated emailer\Debug\Auto-generated emailer.exe (process 10096) exited with c
ode 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

**Figure 3. End Program**

This interface shows the end of the program after the user confirms to not continue the program.

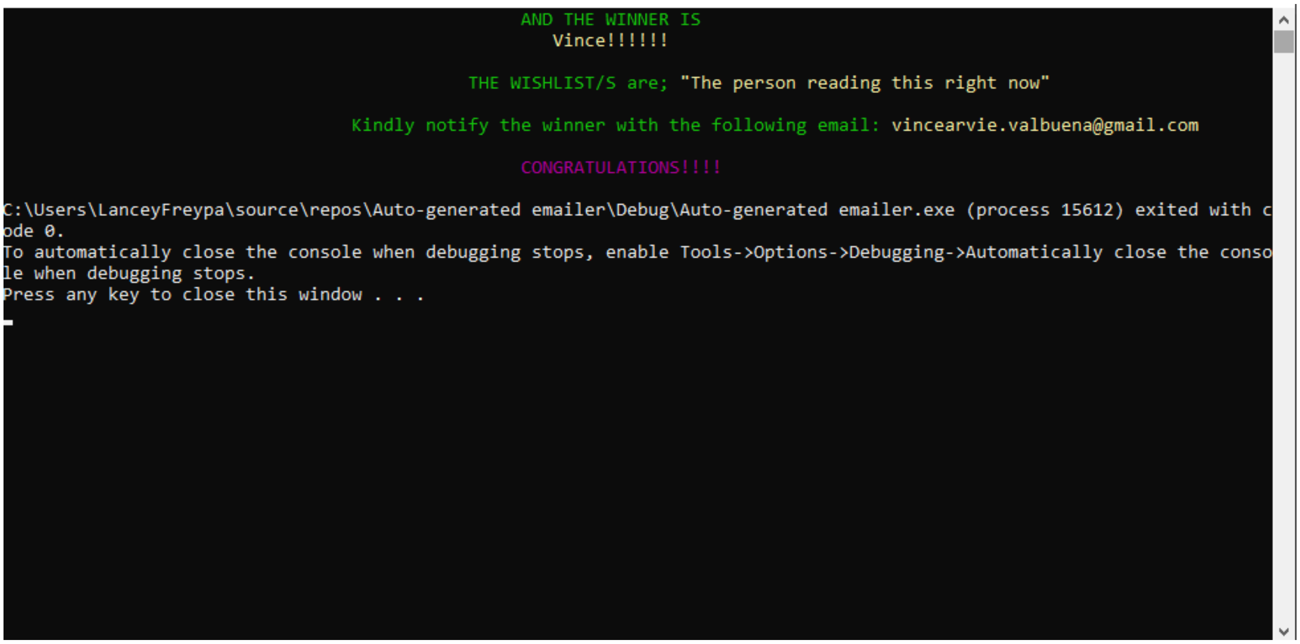


```
                                   Reading all datas

                          1. Seb_07 - bastymesa07@gmail.com - Cash

                          2. Louie - louieg.frani@gmail.com - House and Lot

                          3. Chris - chrishabulan25@gmail.com - Pera

                          4. Vince - vincearvie.valbuena@gmail.com - "The person reading this right now"

                          5. Lancey - freyptpersonal@gmail.com - Infinite wishes

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
                                    Enter number

                              '1' for Giveaway, '2' for Exchange Gift
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
1
```

**Figure 4. Read Data Interface**

Figure 4. Reads the data within the excel file with the given filename.

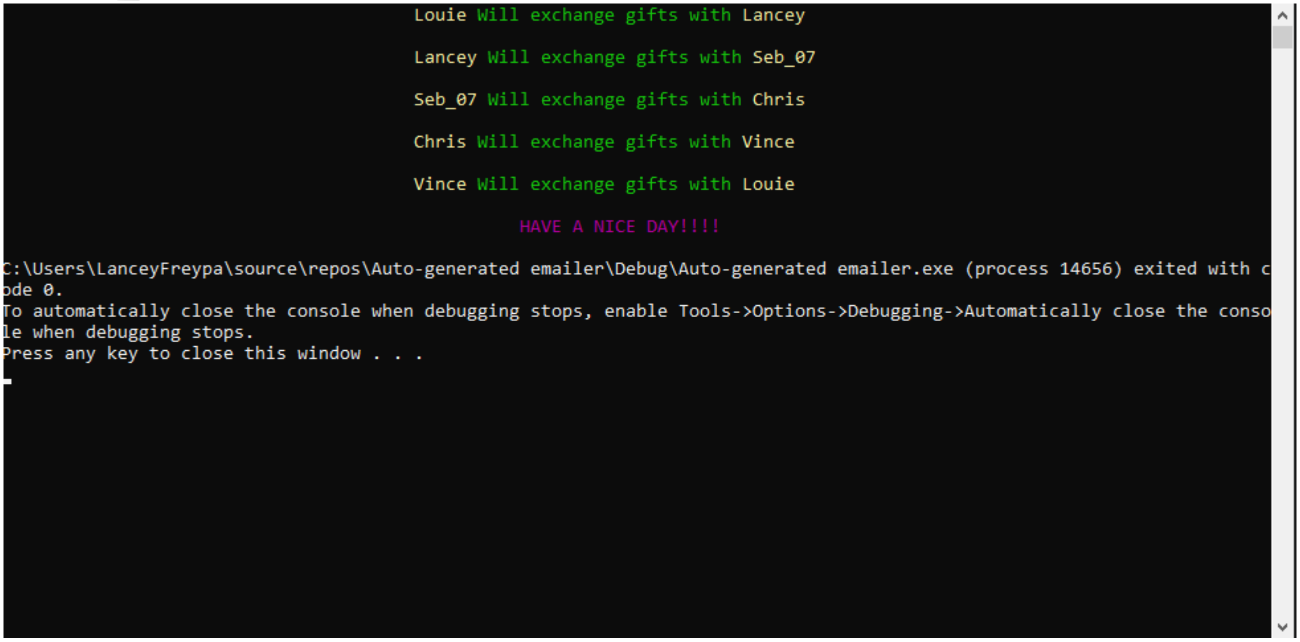
- **1,** would direct to **Figure 5A.**
- **2,** would direct to **Figure 5B.**
- **Other Input,** would direct to **Figure 9.**



```
                                    AND THE WINNER IS
                                       Vince!!!!!!

                                 THE WISHLIST/S are; "The person reading this right now"

                         Kindly notify the winner with the following email: vincearvie.valbuena@gmail.com

                                     CONGRATULATIONS!!!!

C:\Users\LanceyFreypa\source\repos\Auto-generated emailer\Debug\Auto-generated emailer.exe (process 15612) exited with c
ode 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

**Figure 5A. Giveaway Option 1, Raffle**

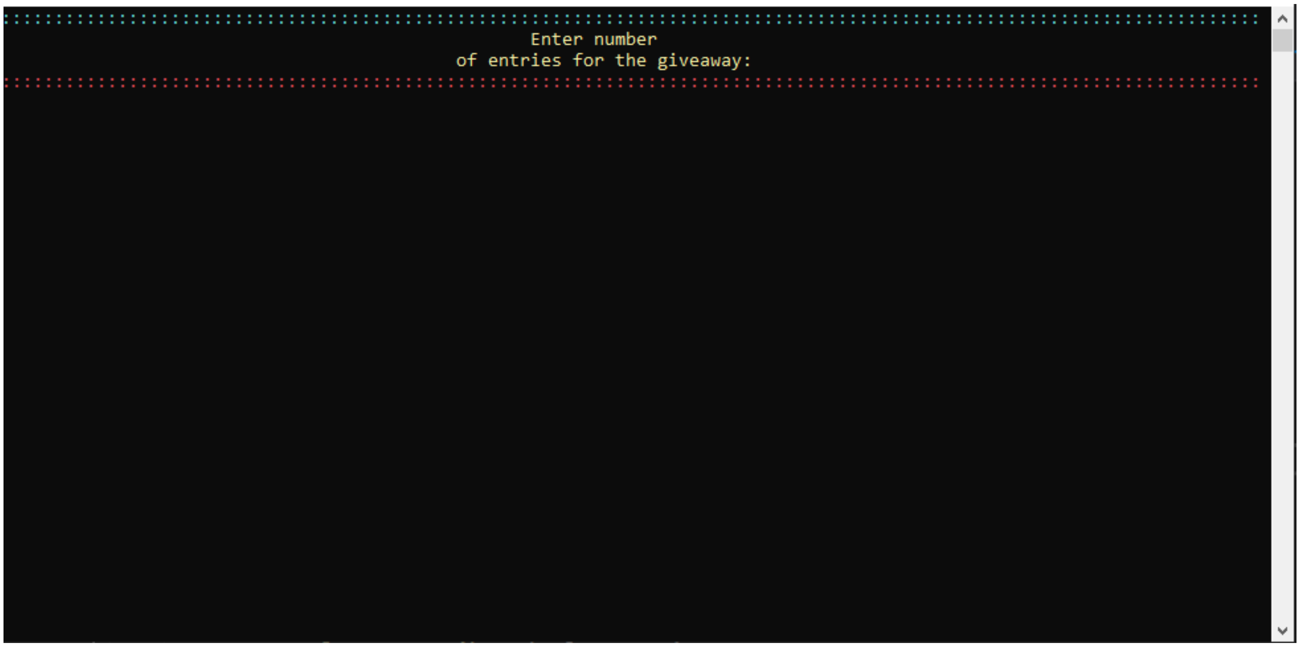
This section displays the chosen winner from the pool of data. It displays the name, email, and wish list.



```
                                       Louie Will exchange gifts with Lancey

                                       Lancey Will exchange gifts with Seb_07

                                       Seb_07 Will exchange gifts with Chris

                                       Chris Will exchange gifts with Vince

                                       Vince Will exchange gifts with Louie

                                                 HAVE A NICE DAY!!!!

C:\Users\LanceyFreypa\source\repos\Auto-generated emailer\Debug\Auto-generated emailer.exe (process 14656) exited with c
ode 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

**Figure 5B. Giveaway Option 2, Exchange Gift**

This section displays an exchange gift event where each of the data are paired with one another.

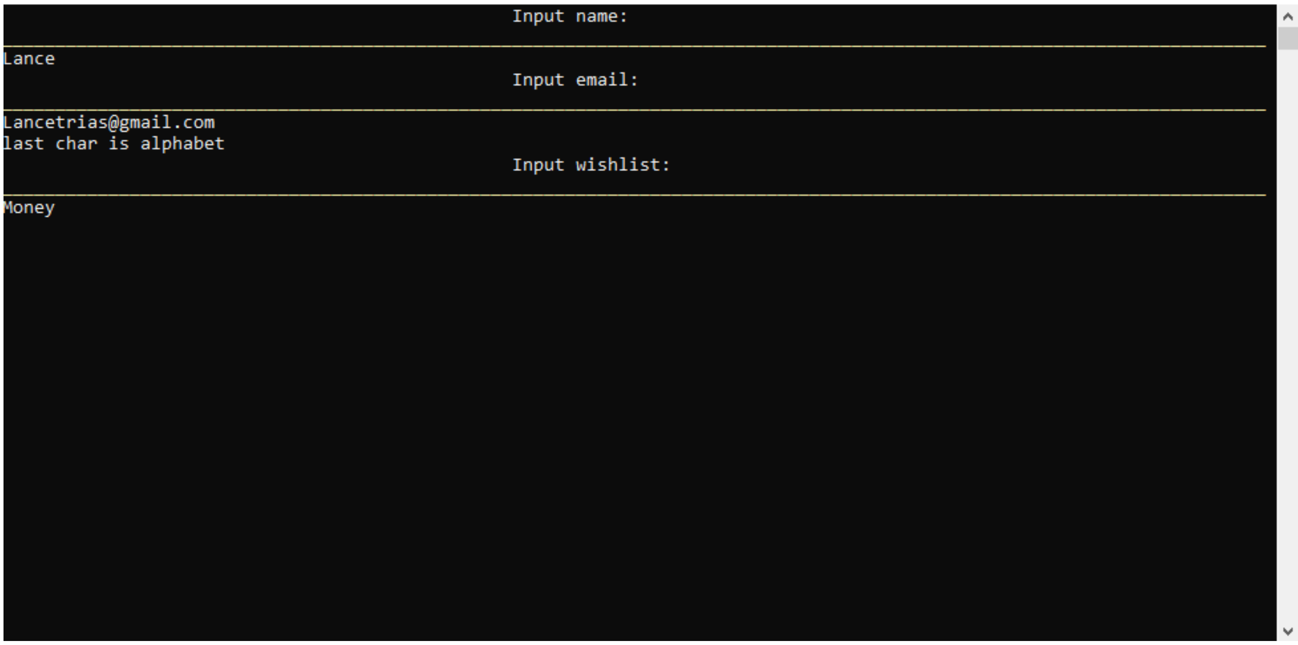


```
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
                                                Enter number
                                         of entries for the giveaway:
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
```

**Figure 6. Input Number of Entries**

This asks for an input from the user to know how many amounts of entries are for the giveaway program. This has a strict requirement of a **min of 2, max of 100** number of entries.

- **Other Input,** would direct to **Figure 9.**

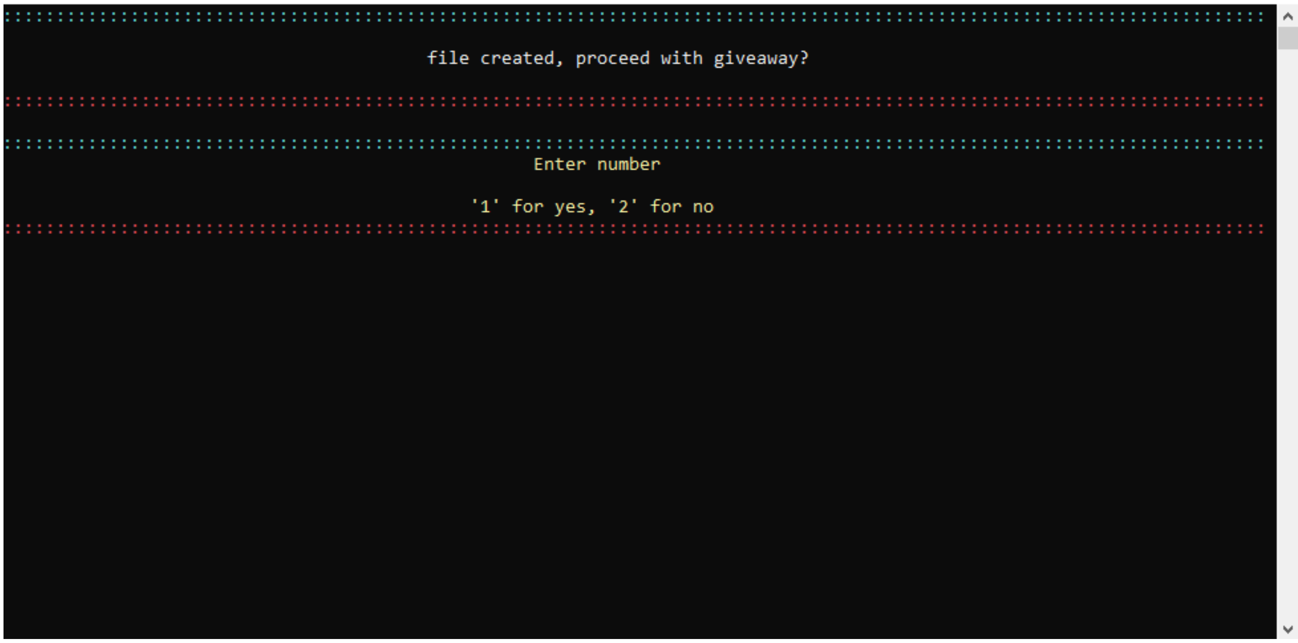


```
                                                Input name:
________________________________________________________________________________________________________________________
Lance
                                                Input email:
________________________________________________________________________________________________________________________
Lancetrias@gmail.com
last char is alphabet
                                                Input wishlist:
________________________________________________________________________________________________________________________
Money
```

**Figure 7. Add Data Section**

This section is adding data to the excel file, every set of input is one group of data for one person. So depending on the X amount of entries, this section repeats X amount of times

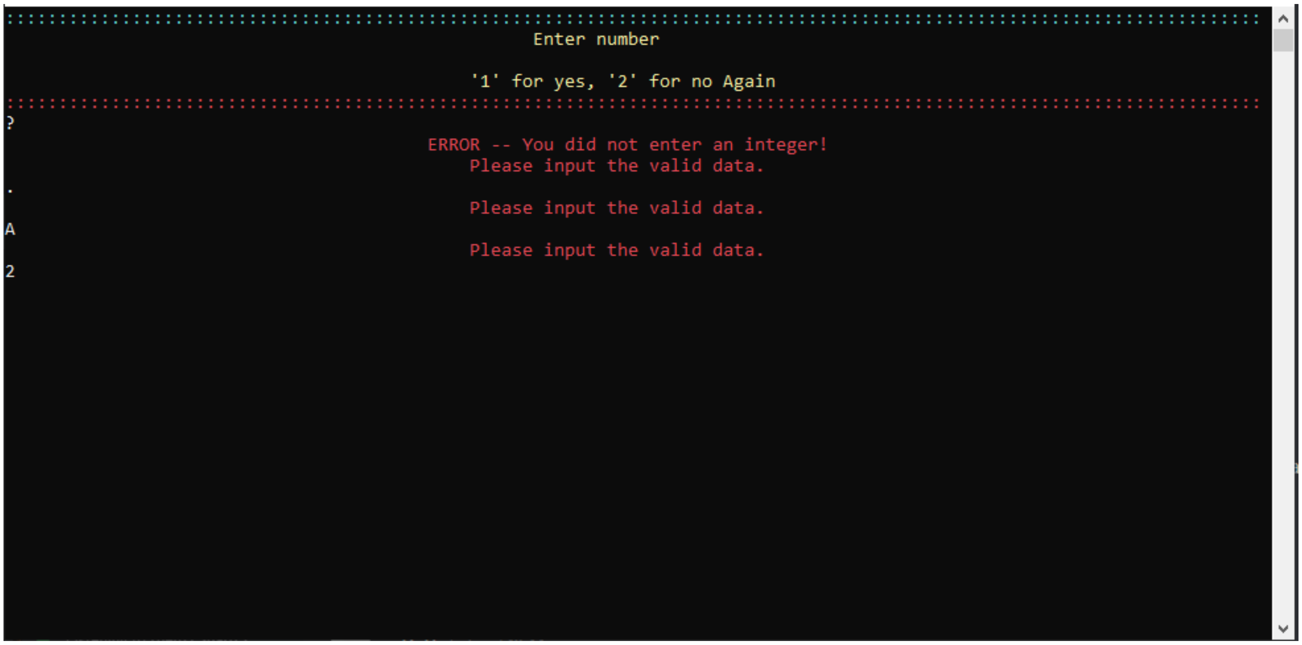
- **Input Name.** Asks for the name of the person
- **Input Email.** Asks for the email.
- **Input Wishlist.** Asks for the wishlist



```
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                        file created, proceed with giveaway?

:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
                                   Enter number

                              '1' for yes, '2' for no
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
```

**Figure 8. File Created**

- **1,** would direct to **Figure 4.**
- **2,** would direct to **Figure 3.**
- **Other Input,** would direct to **Figure 9.**



```
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
                                   Enter number

                              '1' for yes, '2' for no Again
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
?
                            ERROR -- You did not enter an integer!
                               Please input the valid data.

.
                               Please input the valid data.
A
                               Please input the valid data.
2
```

**Figure 9. Bad Input Section**

This section shows whenever the user inputs invalid characters during Input parts. Basically, it reminds the user they have inputted invalid inputs and must repeat until what they have typed is valid.

## VII. SOURCE CODE

```
#include<iostream>
#include<sstream>
#include<iomanip>
#include<fstream>
#include<ctime>
#include<string>
#include<Windows.h>
#include "libxl.h"

using namespace libxl;//FOR EXCEL DATABASE
using namespace std;

int loadFile(const wchar_t*);
void generateFile(const wchar_t*);
void addData(const wchar_t*);
void giveawayFunc(const wchar_t*);
int intInput(string, int);
string stringInput(string);
wstring dataInput(int);

HANDLE colors = GetStdHandle(STD_OUTPUT_HANDLE);        // FOR COLORING OUTPUT
TEXT

int main()
{
    string name = stringInput("file name");
    wstring wideName = wstring(name.begin(), name.end());
    string fileType(".xls");
    wideName += wstring(fileType.begin(), fileType.end());
    const wchar_t* result = wideName.c_str();           // CONVERT TO WCHAR

    int temp = loadFile(result);
    if(temp)
    {
        generateFile(result);
        addData(result);
    }

}

int loadFile(const wchar_t* fileName)
{
    Book* book = xlCreateBook();
    if(book)
    {
        int type;
        fstream file(fileName, ios_base::in | ios_base::binary);            // READ FILE
        if (!file)
        {
            system("cls");                                          // CLEAR CONSOLE/OUTPUT
            SetConsoleTextAttribute(colors, 11);
            std::cout << right << setfill(':') << setw(120) << " " << endl << endl;
            SetConsoleTextAttribute(colors, 15);
            std::cout << "\t\t\t\t     No such file found, proceed to create a new file?" << endl << endl;
            SetConsoleTextAttribute(colors, 12);
            std::cout << right << setfill(':') << setw(120) << " " << endl << endl;
            type = intInput("\n\t\t\t\t\t    '1' for yes, '2' for no", 1);
            return type;
        }
        else {
            system("cls");
            SetConsoleTextAttribute(colors, 11);
            std::cout << right << setfill(':') << setw(120) << " " << endl << endl;
            SetConsoleTextAttribute(colors, 15);
            std::cout << "\t\t\t\t\tfile detected, proceed with giveaway? " << endl << endl;
            SetConsoleTextAttribute(colors, 12);
            std::cout << right << setfill(':') << setw(120) << " " << endl << endl;
            type = intInput("\n\t\t\t\t\t    '1' for yes, '2' for no", 1);
            if (type == 0)
            {
                return type;
            }
            else if (type == 1)

                giveawayFunc(fileName);
                return 0;
            }
        }
    }
}

void generateFile(const wchar_t * fileName)
{
    Book* book = xlCreateBook();
    if (book)
    {
        Font* headerFont = book->addFont();
        headerFont->setSize(12);
        headerFont->setName(L"Verdana");
        headerFont->setBold(true);

        Format* headerFormat = book->addFormat();
        headerFormat->setAlignH(ALIGNH_CENTER);
        headerFormat->setAlignV(ALIGNV_CENTER);
        headerFormat->setFont(headerFont);
```

```
      Sheet* sheet = book->addSheet(L"Sheet1");
      if (sheet)
      {
         sheet->setMerge(1, 1, 0, 3);
         sheet->writeStr(1, 0, L"Name", headerFormat);
         sheet->setMerge(1, 1, 4, 7);
         sheet->writeStr(1, 4, L"Email", headerFormat);
         sheet->setMerge(1, 1, 8, 11);
         sheet->writeStr(1, 8, L"Wishlist", headerFormat);
      }
      book->save(fileName);
      book->release();
   }
}

void addData(const wchar_t* fileName)
{
   Book* book = xlCreateBook();
   if (book)
   {
      if (book->load(fileName))
      {
         Font* dataFont = book->addFont();
         dataFont->setSize(12);
         dataFont->setName(L"Verdana");

         Format* dataFormat = book->addFormat();
         dataFormat->setAlignH(ALIGNH_CENTER);
         dataFormat->setAlignV(ALIGNV_CENTER);
         dataFormat->setFont(dataFont);

         Sheet* sheet = book->getSheet(0);
         if (sheet)
         {
            int numOfEntries = intInput("\t\t\t\t\t   of entries for the giveaway: ", 2);
            for (int row = 2; row < numOfEntries + 2; row++)
            {
               sheet->setMerge(row, row, 0, 3);
               wstring toBeConverted = dataInput(1);
               const wchar_t* data = toBeConverted.c_str();
               sheet->writeStr(row, 0, data, dataFormat);
               toBeConverted = dataInput(2);
               data = toBeConverted.c_str();
               sheet->setMerge(row, row, 4, 7);
               sheet->writeStr(row, 4, data, dataFormat);
               toBeConverted = dataInput(3);
               data = toBeConverted.c_str();
               sheet->setMerge(row, row, 8, 11);
```

```
                    sheet->writeStr(row, 8, data, dataFormat);
                }

            }
            book->save(fileName);
        }
        book->release();
    }
}

void giveawayFunc(const wchar_t* fileName)
{
    Book* book = xlCreateBook();
    if (book)
    {
        if (book->load(fileName))
        {
            Sheet* sheet = book->getSheet(0);
            if (sheet)
            {
                system("cls");
                int totalData = 1, row = 2, i = 0, type = 0;
                for (row = 2; row < sheet->lastRow(); row++)
                {
                    totalData++;
                }
                wstring* names = new wstring[totalData];
                const wchar_t* name;
                const wchar_t* email;
                const wchar_t* wishlist;
                SetConsoleTextAttribute(colors, 10);
                wcout << "\t\t\t\t\t\tReading all datas" << endl << endl;
                SetConsoleTextAttribute(colors, 14);
                totalData = 0;
                for (row = 2; row < sheet->lastRow(); row++)
                {
                    totalData++;
                    name = sheet->readStr(row, 0);
                    wcout << "\t\t\t\t" << totalData << ". " << name << " - ";
                    names[i] = wstring(name);
                    email = sheet->readStr(row, 4);
                    wcout << email << " - ";
                    wishlist = sheet->readStr(row, 8);
                    wcout << wishlist << endl << endl;
                    i++;
                    //Sleep(1000);                          // WAIT FOR 1 SECOND
                }
                type = intInput("\n\t\t\t\t\t'1' for Giveaway, '2' for Exchange Gift", 3);
                // MAKE THE USER DECIDE BETWEEN A GIVEAWAY OR EXCHANGE GIFT
```

```
switch(type)
{
    // CASE 1 IS FOR GIVEAWAY
case 1:
{
    SetConsoleTextAttribute(colors, 10);
    std::cout << "\t\t\t\t\t     Starting the raffle" << endl;
    SetConsoleTextAttribute(colors, 14);
    std::cout << "\t\t\t\t\t\t   in ";

    for (int countdown = 3; countdown > 0; countdown--)
    {
        std::cout << countdown << " ";
        Sleep(1000);
    }

    system("cls");
    SetConsoleTextAttribute(colors, 10);
    std::cout << "\t\t\t\t\t\t AND THE WINNER IS" << endl;
    Sleep(800);
    srand(time(0));
    int winner = 2 + (rand() % totalData);
    SetConsoleTextAttribute(colors, 14);
    name = sheet->readStr(winner, 0);
    wcout << "\t\t\t\t\t              " << name << "!!!!!!" << endl << endl;
    SetConsoleTextAttribute(colors, 10);
    wcout << "\t\t\t\t\t     THE WISHLIST/S are; ";
    SetConsoleTextAttribute(colors, 14);
    wishlist = sheet->readStr(winner, 8);
    wcout << wishlist << endl << endl;
    email = sheet->readStr(winner, 4);
    SetConsoleTextAttribute(colors, 10);
    wcout << "\t\t\t\t\t Kindly notify the winner with the following email: ";
    SetConsoleTextAttribute(colors, 14);
    wcout << email << endl << endl;
    SetConsoleTextAttribute(colors, 13);
    wcout << "\t\t\t\t\t\t CONGRATULATIONS!!!!" << endl;
    SetConsoleTextAttribute(colors, 15);
    break;
}
    // CASE 2 IS FOR EXCHANGE GIFT
case 2:
{
    SetConsoleTextAttribute(colors, 10);
    std::cout << "\t\t\t\t\t     Starting the raffle" << endl;
    SetConsoleTextAttribute(colors, 14);
    std::cout << "\t\t\t\t\t\t   in ";

    for (int countdown = 3; countdown > 0; countdown--)
```

```
                    {
                        std::cout << countdown << " ";
                        Sleep(1000);
                    }

                    system("cls");
                    int tempTotalData = totalData-1;
                    for (int i = 0; i < totalData; i++)
                    {
                        srand(time(0));
                        int randomIndex = rand() % totalData; // generate random index
                        wstring temp = names[i]; // store current name in temp variable
                        names[i] = names[randomIndex]; // swap current name with random name
                        names[randomIndex] = temp; // assign temp value to random index
                    }
                    for (int i = 0; i <= tempTotalData; i++)
                    {
                        SetConsoleTextAttribute(colors, 14);
                        wcout << "\t\t\t\t       " << names[i];
                        SetConsoleTextAttribute(colors, 10);
                        wcout << " Will exchange gifts with ";
                        SetConsoleTextAttribute(colors, 14);
                        if (i == tempTotalData)
                        {
                            wcout << names[0] << endl << endl;
                        }
                        else {
                            wcout << names[i+1] << endl << endl;

                        }
                        if ((totalData % 2) == 1 && i == tempTotalData)
                        {
                            SetConsoleTextAttribute(colors, 12);
                            std::wcout << "\t\t\t\t\t\t   ALERT!" << endl;
                            std::wcout << "\t\t\t\tuneven amount of entries, a unlucky "<< names[i] << " will
not receive any :(" << endl;
                            SetConsoleTextAttribute(colors, 15);
                            break;
                        }
                        Sleep(800);
                    }
                    break;
                }
                default:
                    break;
                }
                delete[] names;
            }
        }
        book->release();
    }
}

int intInput(string text, int typeOfInt)
{
    int output;
    string temp;
    SetConsoleTextAttribute(colors, 11);
    std::cout << right << setfill(':') << setw(120) << " " << endl;
    SetConsoleTextAttribute(colors, 14);
    std::cout << "\t\t\t\t\t\t  Enter number" << endl;
    std::cout << text << endl;
    SetConsoleTextAttribute(colors, 12);
    std::cout << right << setfill(':') << setw(120) << " " << endl;
    SetConsoleTextAttribute(colors, 15);
    cin >> output;
    if (cin.fail())
    {
        SetConsoleTextAttribute(colors, 12);
        std::cout << "\t\t\t\t\tERROR -- You did not enter an integer!" << endl;

        // get rid of failure state
        cin.clear();
        cin.ignore(1000, '\n');

        // discard 'bad' character(s)
        switch (typeOfInt)
        {
            // If typeOfInt is 1, it is for loadFile() function.
        case 1:
            while (output < 1 || output > 2)
            {
                SetConsoleTextAttribute(colors, 12);
                std::cout << "\t\t\t\t\t     Please input the valid data." << endl;
                SetConsoleTextAttribute(colors, 15);
                std::getline(cin >> ws, temp);
                stringstream(temp) >> output;
            }
            break;

            // if typeOfInt is 2, it is for generateFile() function.
        case 2:
            while (output > 1 && output < 101)
            {
                SetConsoleTextAttribute(colors, 12);
                std::cout << "\t\t\t\t\t     Please input the valid data." << endl;
                SetConsoleTextAttribute(colors, 15);
                std::getline(cin >> ws, temp);
                stringstream(temp) >> output;
            }
            break;
        case 3:
            while (output < 1 || output > 2)
            {
                SetConsoleTextAttribute(colors, 12);
                std::cout << "\t\t\t\t\t    Please input the valid data." << endl;
                SetConsoleTextAttribute(colors, 15);
                std::getline(cin >> ws, temp);
                stringstream(temp) >> output;
            }
            break;
        default:
            break;
        }

    }
    switch (typeOfInt)
    {

        // If typeOfInt is 1, it is for loadFile() function.
    case 1:
        if (output == 1)
        {
            return output;
            break;
        }
        else if (output == 2)
        {
            system("cls");
            SetConsoleTextAttribute(colors, 13);
            std::cout << "\n\t\t\t\t\tEnding program" << endl;
            Sleep(1000);
            SetConsoleTextAttribute(colors, 12);
            std::cout << "\n\t\t\t\t\t\t   Goodbye!" << endl;
            SetConsoleTextAttribute(colors, 15);
            return 0;
            break;
        }
        else {
            system("cls");
            return intInput(text + " Again", typeOfInt);
            break;
        }

        // if typeOfInt is 2, it is for generateFile() function.
    case 2:
        if (output > 1 && output < 101)
```

```
        {
            return output;
        }
        else {
            system("cls");
            SetConsoleTextAttribute(colors, 14);
            std::cout << "\t\t\t\t\t       min of 2, max of 100" << endl;
            SetConsoleTextAttribute(colors, 15);
            return intInput(text + " Again", typeOfInt);
        }
        break;
    case 3:
        if (output == 1)
        {
            return output;
        }
        else if (output == 2)
        {
            return output;
        }
        else
        {
            system("cls");
            return intInput(text + " Again", typeOfInt);
        }
        break;
    default:
        system("cls");
        return intInput(text + " Again", typeOfInt);
        break;
    }
}

string stringInput(string text) {

    string output;
    SetConsoleTextAttribute(colors, 11);
    std::cout << right << setfill(':') << setw(120) << " " << endl << endl;
    SetConsoleTextAttribute(colors, 14);
    std::cout << "\t\t\t\t\t\tInput " << text << ":" << endl << endl;
    SetConsoleTextAttribute(colors, 12);
    std::cout << right << setfill(':') << setw(120) << " " << endl;
    SetConsoleTextAttribute(colors, 15);
    std::getline(cin >> ws, output);
    return output;
}

wstring dataInput(int typeOfData)
{
   string str;
   system("cls");
   switch (typeOfData)              // typeOfData asks for what is the data type that must be inputted;
name, email, or wishlist
   {
   case 1:                          // 1 is name, the dataInput is expecting an input for name
      std::cout << "\t\t\t\t\t\tInput name: " << endl;
      SetConsoleTextAttribute(colors, 14);
      std::cout << right << setfill('_') << setw(120) << " " << endl;
      SetConsoleTextAttribute(colors, 15);
      std::getline(cin >> ws, str);
      break;
   case 2:                          // 2 is email, the dataInput is expecting an input for email
      std::cout << "\t\t\t\t\t\tInput email: " << endl;
      SetConsoleTextAttribute(colors, 14);
      std::cout << right << setfill('_') << setw(120) << " " << endl;
      SetConsoleTextAttribute(colors, 15);
      std::getline(cin >> ws, str);
      if (isalpha(str[0]))              // this checks for valid email address input.
      {
         if (str.length() > 10)
         {
            for (int i = 1; i <= str.length(); i++)
            {
               if (find_if(str.begin(), str.end(), isspace) != str.end())
               {
                  std::cout << "Whitespace detected, invalid email!" << endl; return dataInput(2);
               }
               if (str[i] != '@' && i < str.length())
               {
                  //cout << i;
                  continue;
               }
               else if(i == str.length()) { std::cout << "No @ symbol, invalid email!" << endl; return
dataInput(2); }
               else
               {
                  for (int x = i; x <= str.length(); x++)
                  {
                     if (str[x] != '.' && x < str.length())
                     {
                        continue;
                     }
                     else if (x == str.length()) { std::cout << "No . symbol, invalid email!" << endl;
return dataInput(2); }
                     else
                     {
                        if (isalpha(str[str.length()-1]))
                        {
```

```
                                    std::cout << "last char is alphabet" << endl; break;
                                }
                                else { std::cout << "last letter is not alphabet, invalid email!" << endl;; return
dataInput(2); }
                                break;
                            }
                        }
                        break;
                    }
                }
            }
            else { std::cout << "Dummy input detected, invalid email!" << endl; return dataInput(2); }
        }
        else { std::cout << "first letter is not alphabet, invalid email!" << endl;; return dataInput(2); }
        break;
    case 3:                         // 3 is wishlist/s, the dataInput is expecting an input for wishlist/s
        std::cout << "\t\t\t\t\t\tInput wishlist: " << endl;
        SetConsoleTextAttribute(colors, 14);
        std::cout << right << setfill('_') << setw(120) << " " << endl;
        SetConsoleTextAttribute(colors, 15);
        std::getline(cin, str);
        break;
    default:
        break;
    }

    wstring wideName = wstring(str.begin(), str.end());
    return wideName;
}
```

## VIII. CONCLUSION

In conclusion, the raffle program created with the use of advanced features of C++ is a useful tool for conducting giveaways and gift exchanges. It enables easy creation and access of Excel databases containing participant data, and its automated algorithms guarantee a transparent and impartial selection procedure. The program is flexible and appropriate for a variety of occasions because it gives users the choice of running a raffle or a gift exchange. Overall, the raffle program is a user-friendly and efficient way to conduct giveaways and gift exchanges.

In order to design systems utilizing C++, it is essential to comprehend and use advanced programming ideas. Developers are able to create code that is effective and high-performing because it incorporates sophisticated programming techniques. Developers can design C++ code that is quick and effective by knowing and using ideas like memory management and optimization strategies. The ability to write secure code requires knowledge of advanced programming techniques. One can develop C++ code that is less error-prone and more resistant to malicious assaults by comprehending and using advanced programming techniques.

**To PROFESSOR:**

**Final Project Specification:**

**-Choose any system/game you want to create. Examples: Banking System, Grading System, Library System, etc.**

**-The program should include all the topics in ITC111/ITC11L.**

**-The system will be created by group (min of 3 and max of 4 members).**

**-Deadline will be during the Final Exam Week.**

**-Submit the Final Project files to this GDrive link: (Note to Prof: Insert Gdrive link here)**

**-In the GDrive, create a project folder and name it by the surnames of your group members. Your project folder should contain the: (a) Screen record/video of the running program showing the different features of your program (b) Project Documentation**

***Note:* The template for your project documentation is attached here.**

***Note:* Only the group leader will upload the files to the project folder.**