

2024

# User Manual

SPRINT – SD 13 – FALL 2024

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## Table of Contents

<b>1. Introduction .....</b>	<b>3</b>
<b>2. System Requirements .....</b>	<b>3</b>
<b>3. Installation Guide.....</b>	<b>3</b>
<b>4. Getting Started .....</b>	<b>4</b>
<b>5. Main Menu (1–6).....</b>	<b>4</b>
5.1 Select an Option.....	5
<b>6. Travel Claim Program: .....</b>	<b>5</b>
6.1 Type in the Following Information: .....	5
6.2 Outputs Displayed: .....	5
6.3 To Process Another Claim / To Go Back to Main Menu .....	6
<b>7. Fizz, Buzz Program.....</b>	<b>7</b>
<b>8. Employee Information .....</b>	<b>7</b>
8.1 Type in the Following Information: .....	7
8.2 Outputs Displayed .....	8
8.3 To Go Back to Main Menu .....	9
<b>9. Manage Equipment Maintenance Schedules .....</b>	<b>9</b>
9.1 XYZ Company Maintenance Program .....	9
9.2 Enter the Information as Follows: .....	9
9.3 Report Details.....	9
9.3.1 Program Overview .....	10
9.4 Repayment Schedule Program.....	10
9.5 Enter the Information as Follows: .....	10
9.6 Cost to Finance Report .....	11
<b>10. List Program.....</b>	<b>11</b>
10.1 Adding Items .....	11
10.2 Viewing Items .....	12
10.3 Deleting Items .....	12
10.4 Back to Main Menu .....	13

<b>11. Troubleshooting Tips .....</b>	<b>13</b>
<b>12. FAQs .....</b>	<b>13</b>
12.1 Main Menu .....	13
12.2 Travel Claim Program.....	13
12.3 Fizz, Buzz Program .....	14
12.4 Employee Information .....	14
12.5 Manage Equipment Maintenance Schedules .....	14
12.6 List Program.....	14
<b>13. Contact Us.....</b>	<b>15</b>

## 1. Introduction

Welcome to the user manual for our combined Sprint programs! This handy toolset allows you to complete a travel claim, explore a demonstration of loops and conditional logic through the classic Fizz, Buzz, FizzBuzz challenge, and create unique employee information such as IDs, usernames, and passwords. You can also track important dates like birthdays, years worked, and time until retirement.

Additionally, the program helps manage equipment maintenance schedules, ensuring timely upkeep and compliance. Finally, you can create and save simple lists in a JSON format for easy data management and retrieval.

This user manual provides detailed instructions for each program, enabling you to make the most of these powerful tools.

## 2. System Requirements

To ensure the best experience with these Sprint programs, please check the following:


- **Operating System:** Windows, macOS, or Linux
- **Python Version:** Python 3.x installed on your machine

## 3. Installation Guide

Getting started is easy! Follow these steps:

1. Download the program file from My Teams submission Portal.
2. Make sure you have Python installed on your system.
3. Save the program file in a directory of your choice.

## 4. Getting Started

1. Open Visual Studio.
2. Open Your Project:
  - Go to File, Open, Downloads and select Group1Sprint.
3. Find Your Python File:
  - In the Group1Sprint, locate Run This.py.
4. Run the Program:
  - With the Run This.py selected click the symbol in the top right corner  
 (Run this python file)  
  
**or**
    - Right-click the file and choose Run python File in terminal.

## 5. Main Menu (1–6)

1. Complete a travel claim.
2. Fun interview question. (Fizz, Buzz)
3. Cool stuff with strings and dates. (Employee info)
4. XYZ Company. (Maintenance Program and Repayment Options)
5. Something old, something new. (Make a list and save it in JSON)
6. Quit.

```
Midterm Sprint – Main Menu  
  
1. Complete a travel claim.  
2. Fun interview question.  
3. Cool stuff with strings and dates.  
4. A little bit of everything.  
5. Something old, something new.  
6. Quit.  
  
Enter choice (1–6): █
```

## 5.1 Select an Option

1. Enter a number between 1 and 6 to choose your desired option.
2. The program will process your choice and direct you to the corresponding function.

## 6. Travel Claim Program:

### 6.1 Type in the Following Information:

- Employee Number (5 letters or numbers)
- Employee first name
- Employee last name
- Where the trip took place
- The date of departure (in YYYY/MM/DD format)
- The date of return (in YYYY/MM/DD format, the return date may not be more than 7 days after the departure)
- Whether the employee used their own car or a rented car (O or R respectively)
- KM travelled by employee (will only ask if employee used their own car and may not exceed 2000KM)
- Whether the claim type is Standard or Executive (S or E respectively)

### 6.2 Outputs Displayed:

- Inputs (Reading back what you typed):
  - Employee Number
  - First Name
  - Last Name
  - Trip Location
  - Departure Date
  - Return Date
  - Own or Rented Car

- KM Traveled (will only output if it was entered in the first step)
- Claim Type
- Calculations (Results determined by the information typed)
  - Length of Trip
  - Per Diem Amount
  - Mileage
  - Bonus
  - Claim Amount
  - HST
  - Claim Total

```

Inputs:
Employee Number:  A1B2C
First Name:       Name
Last Name:        Name
Trip Location:    St. John's
Departure Date:   Oct 29, 2024
Return Date:      Oct 31, 2024
Own or Rented Car: Own Car
KM Traveled:      2,000.00
Claim Type:       Executive

Calculations:
Length of Trip:    2 days
Per Diem Amount:  $170.00
Mileage:           $170.00
Bonus:            $170.00
Claim Amount:     $680.00
HST:              $102.00
Claim Total:      $782.00

Would you like to process another claim? (Y/N): █

```

## 6.3 To Process Another Claim / To Go Back to Main Menu

- If you want to process another claim, when prompted enter “y” to go back to the beginning.
- If you want to return to the main menu, instead enter “n” when prompted and you will be returned.

## 7. Fizz, Buzz Program

This program will go through a loop of numbers between 1 and 100 and display the text “Fizz”, “Buzz”, “FizzBuzz”, or the current number. Each number will be verified with a list of criteria, which will determine the output.

- If the number is **dividable by 5**, “Fizz” will be displayed.
- If the number is **dividable by 8**, “Buzz” will be displayed.
- If the number is **dividable by 5 and 8**, “FizzBuzz” will be displayed.
- If **none of the conditions** are met, the current number will be displayed.

The following example illustrates the output for the numbers ranging from 30 to 45:

```
Fizz
31
Buzz
33
34
Fizz
36
37
38
39
FizzBuzz
41
42
43
44
Fizz
```

## 8. Employee Information

### 8.1 Type in the Following Information:

- Employee first name
- Employee last name
- Employee phone number
- Employee start date (in YYYY/MM/DD format)



- Employee birth date (in YYYY/MM/DD format)

```
Enter the Employee first name (To end program type END): john
Enter the Employee last name: Doe
Enter the Employee phone number (0000000000): 7091234567
Enter the Employee start date (YYYY-MM-DD): 2023-10-31
Enter the Employee Birth date (YYYY-MM-DD): 1992-10-31
```

## 8.2 Outputs Displayed

- **Employee ID:** A unique identifier based on the employee's name and the current year.
- **Username:** A formatted username combining the employee's first initial and last name with the birth year.
- **Password:** A generated password that combines the first initial, last name, and current year.
- **Days Until Birthday:** The number of days remaining until the employee's next birthday.
- **Duration of Employment:** How long the employee has worked at the company in years and days.
- **Time Until Retirement:** The number of years remaining until the employee reaches retirement age.

```
Employee Id:           D0EJ02024
Username:              J.Doe1992
Password:              Jdoe2024

Days until birthday:   1 day(s)
Worked at company for: 0 year(s), 364 day(s)
How long until retirement: 33 year(s)
Enter the Employee first name (To end program type END):
```

## 8.3 To Go Back to Main Menu

- While entering the employee's first name. Type "END" to terminate the program at any time.

## 9. Manage Equipment Maintenance Schedules

### 9.1 XYZ Company Maintenance Program

This program allows you to keep track of the parts cost, and the maintenance schedule. You can then select a repayment plan at the end, if they wish to do so. A header will be displayed with the current date, and the name of the program. You will then be prompted to enter all the information necessary.

### 9.2 Enter the Information as Follows:

- At the prompt:
  1. **Enter the part cost** and press the Enter/Return key. The part cost is required and must be a numeric value.
  2. **Enter the date of purchase** and press the Enter/Return key. The date must be entered in the following format: "YYYY/MM/DD". Example: for the 10<sup>th</sup> of September 2024, you would enter 2024/09/10.

### 9.3 Report Details

The report will display the following information:

- **Part cost**
- **Date of purchase**
- Scheduled **date for the basic cleaning** (10 days after the date of purchase)
- Scheduled **date for the tube/fluid check** (3 weeks after the date of purchase)
- Scheduled **date for the inspection** (6 months after the date of purchase)
- **Monthly amortization cost** of the part, over a period of 180 months (15 years)

## 9.3.1 Program Overview

The screenshot shows a terminal-style interface for the 'XYZ Company' program. The interface is divided into several sections, each with a label and a bracket pointing to it:

- Header:** Points to the top section containing 'XYZ Company' and 'October 29, 2024'.
- Data Entry Section:** Points to the green section titled 'Maintenance Schedule - Data Entry' containing prompts: 'Enter the part cost: 437.34' and 'Enter the date of purchase (YYYY-MM-DD): 2024-10-10'.
- Equipment Information Section:** Points to the dark blue section titled 'XYZ Company - Maintenance Schedule' containing 'Equipment information:' and a table of details.
- Maintenance Schedule Information Section:** Points to the green section titled 'Maintenance Schedule' containing a table of due dates.
- Amortization Cost Information Section:** Points to the dark blue section titled 'Amortization Cost' containing a table of financial details.
- Repayment Plan Prompt:** Points to the final green section with the prompt 'Would you like to select a financing plan (Y/N)?'.

XYZ Company - Maintenance Schedule		
Equipment information:		
Cost:	\$437.34	Purchase Date: October 10, 2024

Maintenance Schedule	
Basic Cleaning Due Date:	October 20, 2024
Tube/Fluid Check Date:	October 31, 2024
Inspection Due Date:	April 10, 2025

Amortization Cost		
Duration in Months:	180	Monthly Amortization: \$2.19

At the end of the report, you will have the option to select a financing plan for the part. Type “Y” if you wish to do so, or “N” to quit the program and go back to the main menu.

## 9.4 Repayment Schedule Program

This program allows you to select a repayment plan for the part cost that was input in the XYZ Company program.

## 9.5 Enter the Information as Follows:

- At the prompt:
  1. **Enter the number of years** for the repayment plan and press the Enter/Return key. Values in increment of 0.5 are accepted, with 0.5 (6 months), being the minimum. Example: 2.5, would be 2.5 years, or 30 months.

2. **Enter the interest rate.** Note: only the **value** is required. A percentage symbol is not required. Example: 8.95, for 8.95%.

## 9.6 Cost to Finance Report

Based on the information provided, a summary will be printed with the following details:

- **Original part cost**
- **Cost to finance** (interests)
- **Total cost** (original cost + interests)
- **Interest rate**
- **Monthly payment** (including interests)
- **Period** (in months)

**After the printout**, you will be prompted to generate another report. You may enter “Y” to proceed or “N” to go back to the main menu.

## 10. List Program

### 10.1 Adding Items

1. When you launch the program, you'll see a menu.
2. Select **(1. Add item.)**
3. Enter the item you want to add when prompted.
4. Your item will be added to the list, and it will be saved automatically!

```
Choose an option: 1
```

```
Enter the item to add: eggs
```

## 10.2 Viewing Items

1. To see your current list, select (**2. View items**) from the menu.
2. If you have items, they will be displayed with numbers next to each one. This helps you keep track of what you've added!
3. Press Enter to continue.

```
Choose an option: 2
```

```
      List items
-----
1. eggs
Press ENTER to continue
```

## 10.3 Deleting Items

1. Choose (**3. Delete item**) from the menu.
2. You'll see a numbered list of items. Enter the number corresponding to the item you wish to delete.
3. If the number is valid, the item will be removed from your list, and the change will be saved automatically.

```
Choose an option: 3
```

```
      List items
-----
1. eggs
Enter the number of the item to delete it: 1
```

## 10.4 Back to Main Menu

1. Choose **(4. Exit)** This will bring you back to the main menu of the program

## 11. Troubleshooting Tips

1. **Problem:** Program won't start.

**Solution:** Ensure Python is installed and you're using the correct command to run the program.

2. **Problem:** Data entry errors occur.

**Solution:** Verify that you are entering the data in the correct format and using valid characters as specified by the prompts.

3. **Problem:** Program sends error when first running program

**Solution:** Ensure you're running the "Run This.py" script and not any other script.

## 12. FAQs

### 12.1 Main Menu

- **Q:** I pressed [number] and nothing happened, is it bugged?
- **A:** Make sure you press "Enter" after typing the number. This goes for everything you input in any program. If the problem persists, contact Ashton.
- **Q:** Will there be more options in the future?
- **A:** Possibly! If the need arises it'd be easy to implement.

### 12.2 Travel Claim Program

- **Q:** Why isn't it letting me input KM traveled?
- **A:** KM traveled is only inputted when the employee uses their own car. If the option for Rented car was selected, KM traveled is skipped

- **Q:** I inputted the wrong information, what do I do?
- **A:** As of now, there's no way to go back and fix any mistakes. You'll have to continue with the program and start again.

## 12.3 Fizz, Buzz Program

- **Q:** Can I set the range of values myself?
- **A:** No, this feature is not implemented, but it is something we are considering adding in the future.

## 12.4 Employee Information

- **Q:** Can I run this program on any operating system?
- **A:** Yes, the program is compatible with any OS that has Python installed.
- **Q:** What if I want to stop entering data?
- **A:** Simply type "END" when prompted for the employee's first name to exit the program.

## 12.5 Manage Equipment Maintenance Schedules

- **Q:** Is there a way to enter a part name?
- **A:** No. The printout is handed to the employee in charge of maintenance, and that section is filled up by them, on paper. If that workflow were to change in the future, that option could easily be implemented.

## 12.6 List Program

- **Q:** Where is my list saved?
- **A:** Your list is saved in a file named MyList.json in the same directory as the program.
- **Q:** Can I use this program on any operating system?
- **A:** Yes, if you have Python installed, you can use it on Windows, macOS, or Linux.

### 13. Contact Us

If you have any questions or need further assistance, feel free to reach out:

- **Email:**
  - Justin: [Justin.Greenslade@keyin.com](mailto:Justin.Greenslade@keyin.com)
  - Joseph: [Joseph.Gallant@keyin.com](mailto:Joseph.Gallant@keyin.com)
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