TEST CASES OF ASSIGNMENT 2 PROGRAM PART I

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1. Introduction

This document will serve to present an in-depth test of all functionalities in the menu as well as showing how it deals with certain type of exceptions.

2. Test Cases

The user can select any option from 0 to 7, and he will be directed to his choice in the menu. Here, the user selects 1 (Start a cargo), so he will be prompted to complete additional info to enter his cargo.

```
What would you like to do?
   1.  Start a cargo
          a.  Driver name
          b.  Unload weight(kg; lb)
          c.  Originating city
          d.  Destination city
   2.  Load the truck with packages
          a.  Package tracking number
          b.  Package weight(oz; lb)
          c.  Package shipping cost
   3.  Unload a package
   4.  The number of packages loaded
   5.  The gross income earned by shipping the cargo
   6.  Weight the truck(after it has been completely loaded)
   7.  Drive the truck to destination
   0.  To quit
Please enter your choice and press <Enter>: 1

a. Driver name:
```

```
a. Driver name: John Doe
b. Unload weight (enter the number followed by kg or lb): 200 kg
c. Originating city: Montreal
d. Destination city: Toronto

Driver name: John Doe  Unloaded weight: 440.92 lb; 200.0 kg  Originating city: Montreal  Destination city: Toronto
Cargo loaded in successfully.
```

After having entered all the inputs correctly, the cargo will be loaded into the program. The **driver name** allow any string of input, the **unload weight** only allows double greater or equal to 0. Note that the weight must be accompanied with its units, if it isn't an error will be prompted and the user will have to enter another value.

```
a. Driver name: John Doe
b. Unload weight (enter the number followed by kg or lb): -10kg
Please enter a proper weight.
b. Unload weight (enter the number followed by kg or lb): 1g
Please enter a proper value.
b. Unload weight (enter the number followed by kg or lb): asdgewr
Please enter a proper value.
b. Unload weight (enter the number followed by kg or lb): 41 kg
c. Originating city: Montreal
d. Destination city: Toronto

Driver name: John Doe  Unloaded weight: 90.39 lb; 41.0 kg  Originating city: Montreal  Destination city: Toronto
Cargo loaded in successfully.
```

Note that the options in the menu are all handled by exceptions as well. The user is forced to enter a proper input until it satisfies the requirements.

```
What would you like to do?
   1.  Start a cargo
          a.  Driver name
          b.  Unload weight(kg; lb)
          c.  Originating city
          d.  Destination city
   2.  Load the truck with packages
          a.  Package tracking number
          b.  Package weight(oz; lb)
          c.  Package shipping cost
   3.  Unload a package
   4.  The number of packages loaded
   5.  The gross income earned by shipping the cargo
   6.  Weight the truck(after it has been completely loaded)
   7.  Drive the truck to destination
   0.  To quit
Please enter your choice and press <Enter>: asd

Please enter a valid option.
```

```
 Please enter your choice and press <Enter>: -1

 Please enter a valid option
```

For option 2 (Load the truck with packages), it looks for a truck first, if it wasn't initiated it will let the user know.

```
What would you like to do?
   1.  Start a cargo
          a.  Driver name
          b.  Unload weight(kg; lb)
          c.  Originating city
          d.  Destination city
   2.  Load the truck with packages
          a.  Package tracking number
          b.  Package weight(oz; lb)
          c.  Package shipping cost
   3.  Unload a package
   4.  The number of packages loaded
   5.  The gross income earned by shipping the cargo
   6.  Weight the truck(after it has been completely loaded)
   7.  Drive the truck to destination
   0.  To quit
Please enter your choice and press <Enter>: 2

Please start a cargo before loading packages.
```

If the cargo was started, then the user will be able to add packages to it. The menu will only accept an integer for the **tracking number** strictly larger than 0. The **package weight** must be larger or equal to 0 and needs to be accompanied with the proper units given has options by the menu. The backend code will determine, if the package can be loaded given its tracking number and its weight. If it can't, an error will be thrown to the user and the user will be redirected to the main menu. Else, the package will be loaded in, and the user will get a success message.

```
a. Package tracking number: -1000006
Please enter a valid tracking number.
a. Package tracking number: adasd
Please enter a valid tracking number.
a. Package tracking number: 1000006
b. Package weight (enter the number followed by oz or lb):-454
Please enter a proper value.
b. Package weight (enter the number followed by oz or lb):456
Please enter a proper unit.
b. Package weight (enter the number followed by oz or lb):asd54
Please enter a numerical value.
b. Package weight (enter the number followed by oz or lb):40lb

This package type can't be loaded.
Package type: Unknown Tracking number: 1000006 Weight: 40lb
Verify the tracking number provided.
```

```
a. Package tracking number: 10000001
b. Package weight (enter the number followed by oz or lb):100000lb

The package is too heavy to be loaded.
Package type: Box  Tracking number: 10000001  Weight: 100000.0 lb; 1600000.0 oz.
The weight of the box is above 40 pounds.
```

```
a. Package tracking number: 100000001
b. Package weight (enter the number followed by oz or lb):20lb

The package following package has been loaded successfully:
Package type: Box  Tracking number: 100000001  Weight: 20.0 lb; 320.0 oz.
The shipping cost of this package is of 40.0$
```

When the user selects 3 (Unload a package):

```
What would you like to do?
   1.  Start a cargo
          a.  Driver name
          b.  Unload weight(kg; lb)
          c.  Originating city
          d.  Destination city
   2.  Load the truck with packages
          a.  Package tracking number
          b.  Package weight(oz; lb)
          c.  Package shipping cost
   3.  Unload a package
   4.  The number of packages loaded
   5.  The gross income earned by shipping the cargo
   6.  Weight the truck(after it has been completely loaded)
   7.  Drive the truck to destination
   0.  To quit
Please enter your choice and press <Enter>: 3

Position 1  Package type: Box  Tracking number: 100000001  Weight: 20.0 lb; 320.0 oz. Shipping cost: 40.0$
Select the position of the package you would like to unload:
```

The user is shown all the package currently in the truck as well as their position and respective information. The user picks which package he wants to unload from the truck by entering its respective position. The user will be prompted until he inputs a proper input corresponding to any position where a package is contained.

```
Position 1  Package type: Box  Tracking number: 100000001  Weight: 20.0 lb; 320.0 oz. Shipping cost: 40.0$
Select the position of the package you would like to unload: 2
Please enter a valid position
Select the position of the package you would like to unload: -1
Please enter a valid position
Select the position of the package you would like to unload: asdh
Please enter a valid position.
Select the position of the package you would like to unload: 1

Package type: Box  Tracking number: 100000001  Weight: 20.0 lb; 320.0 oz. Shipping cost: 40.0$
Has been successfully unloaded from the truck.
```

If we try to use this option when there is no package in the truck (or if the user never started a cargo):

```
Please enter your choice and press <Enter>: 3

Make sure you have a cargo loaded with packages before selecting this option.
```

Option 4 (The number of packages loaded) shows the user all the packages contained in the truck as well as the total number of packages in the truck. If there are no package, we return the following output:

```
Please enter your choice and press <Enter>: 4

The truck contains no package.
```

If there is no truck loaded:

```
Please enter your choice and press <Enter>: 4

There are no truck loaded.
```

If there are packages in a truck:

```
Please enter your choice and press <Enter>: 4

Position 1  Package type: Box  Tracking number: 1000001  Weight: 20.0 lb; 320.0 oz. Shipping cost: 40.0$
Position 2  Package type: Letter  Tracking number: 100000000  Weight: 1.5 lb; 24.0 oz. Shipping cost: 1.2$
The truck contains a total of 2 packages.
```

Option 5 (Gross income earned by shipping cargo) gives the total shipping cost of all the packages contained in a truck.

```
Please enter your choice and press <Enter>: 5

The gross income of the cargo is of 41.2$
```

If there are no package in the truck:

```
Please enter your choice and press <Enter>: 5

There are no package loaded.
```

If there are no truck loaded:

```
Please enter your choice and press <Enter>: 5

There are no truck loaded.
```

Option 6 (Weight the truck (after it has been completely loaded)) is weighting the truck plus all the packages inside it only if it is completely loaded. If there are less than 200 packages in the trucks it shows the following message (with the number of packages needed to reach 200):

```
Please enter your choice and press <Enter>: 6

The truck isn't fully loaded.
198 packages are still needed.
```

If the truck is null:

```
Please enter your choice and press <Enter>: 6

There are no truck loaded.
```

If the truck is full then the gross weight is calculated and outputted to the user:

```
The gross earning is of: 1371.33$
```

Option 7 (Drive the truck to destination) which simulates a delivery from the originating city to the destination and unloads the packages.

If the truck is null:

```
Please enter your choice and press <Enter>: 7

There are no truck loaded.
```

If the truck is empty:

```
Please enter your choice and press <Enter>: 7

Driving the truck to destination...
The truck arrived from Laval and got to Montreal.
The truck has no package to unload.
```

If the truck is having packages loaded:

```
Please enter your choice and press <Enter>: 7

Driving the truck to destination...
The truck arrived from Laval and got to Montreal.
The truck is currently unloading...
The truck has been completely unloaded.
```

3. Conclusion

We tested the menu extensively to make sure the user has no possible way to crash the program. All the input exceptions and other types of exceptions are well handled by our robust program. In this document, we wanted to feature some of the notable ways we manage exceptions on these test cases.