

## 1. Function Description

**Function Name:** getUserInput

**Parameter List:**

Parameter Name	Type	Description
Input	struct UserInput	A struct stores the user input data
Map	const struct Map	A map for further validation use

**Returns:** Return 1 if user input 0 0 x to exit the program, 0 if user input a valid input.

**Description:** This function prompts the user to enter shipment weight, box size, and destination coordinates. It validates the input to ensure it meets certain criteria such as weight range, box size, and valid destination on the map. The input is stored in the provided struct UserInput pointer.

## 2. Function Description

**Function Name:** convertStringToPoint

**Parameter List:**

Parameter Name	Type	Description
destination	struct Point	the point of storing the converted value
Source	const char	the string needs to convert

**Returns:** void

**Description:** This function takes a string representing a point (e.g., "A1") and converts it into a struct Point with corresponding row and column values. The converted point is stored in the provided struct Point pointer.

### 3. Function Description

**Function Name:** inputWeightValidation

**Parameter List:**

Parameter Name	Type	Description
Weight	double	The weight input by the user

**Returns:** 1 if the weight is within a specific range, 0 if the weight is outside the range

**Description:** This function checks whether the provided weight input by the user is within the valid range.

### 4. Function Description

**Function Name:** inputSizeValidation

**Parameter List:**

Parameter Name	Type	Description
Size	const double	Thes box size input by user

**Returns:** 1 if the weight is within a specific range, 0 if the weight is outside the range

**Description:** This function checks whether the provided size input by the user is within the valid range.

## 5. Function Description

**Function Name:** inputDestinationValidation

**Parameter List:**

Parameter Name	Type	Description
point	const struct Point	The destination point input by user
map	const struct Map	Whether the map used to define this point is valid.

**Returns:** 1 if the point is valid in map, 0 if the point in map is invalid in map

**Description:** This function checks whether the provided destination point input by the user is within the bounds of the map and corresponds to a valid destination according to the provided map configuration.

## 6. Function Description

**Function Name:** printMessage

**Parameter List:**

Parameter Name	Type	Description
selection	int	Select the sentence format for the message
route	const struct route	A constant pointer to a struct Route containing information about the route.

**Returns:** void

**Description:** This function prints a message based on the provided selection and route information.