***Pseudocodes***

**Pseudocode for main():**

1. Initialize the variable say option to 0.
2. Read the inventory data.
3. Create the 75 Shoes of 3 different sizes and store them in the required array.
4. Enter a do-while loop that will run until the user exits.
5. Within the loop, print the menu and get the user's input option.
6. Use a switch statement to determine which function to call based on the user's input option.
7. If the option is 1, Rent a new pair of shoes
8. If the option is 2, Return a pair shoes
9. If the option is 3, Print all rented shoes in each size separately.
10. If the option is 4, Print all rented shoes so far
11. If the option is 5, Print all shoes that are not rented in each size
12. If the option is 6, Print all shoes that are not rented in all sizes
13. If the option is 7, make a conjecture and display about the shoes that which shoes are more likely and which are less likely to be lost
14. If the option is 8, Display all the Lost shoes by the company so far.
15. If the option is 9, end the current day and Mark all the currently rented shoes as lost at the end of the day.
16. If the user selects to exit i.e input 0, print a message thanking the user for using the application and exit the loop.
17. End the program.

**Pseudocode for showMenuAndInput():**

1. Declare and initialize the option variable to store the user's input.
2. Start a do-while loop that will continue until a valid option is selected.
3. Within the loop, display the menu options using a series of printf() statements.
4. Prompt the user to input their choice using scanf() and store the input in the option variable.
5. If the user's input is invalid (less than 0 or greater than 9), display an error message and set option to -1 to trigger the loop to continue.
6. Once a valid option is selected, the loop will end and the function will return the selected option.

**Pseudocode for Renting Shoes:**

1. Input the size.
2. Search the array if specific size is in inventory
3. The shoe should be marked as not rented and should also not be lost
4. If such shoe found, mark as rented and print appropriate message
5. else tell that no such size of shoes in inventory

**Pseudocode for Returning Shoes:**

1. Input the size
2. Search the array if the specified size of show is present in the array with marked as rented but not marked as lost
3. If such shoe found mark as not rented and print appropriate message
4. else tell that no such size of shoes is rented today

**Pseudocode for Printing Rented Shoes:**

1. Initialize count to 0
2. Search the array for the shoes marked as rented (not lost) and of size Small
3. End the loop when index reaches at the end
4. Print the count and size of shoes
5. Repeat from Step 1 to 4 for Medium and Large Shoes as well

**Pseudocode for Printing Not Rented Shoes:**

1. Initialize count to 0
2. Search the array for the shoes marked as not rented and not lost and of size Small
3. End the loop when index reaches at the end
4. Print the count and size of shoes
5. Repeat from Step 1 to 3 for Medium and Large Shoes

**Pseudocode for Printing Analytics:**

1. Get the Count of lost shoes of all three sizes.
2. If all the lost counts are equal, all are equally likely to lost
3. If 2 lost counts are equal and the third is larger than these 2, then the larger one is most likely and the smaller ones are less but equally likely to be lost.
4. If 2 lost counts are equal and the third is smaller than these 2, then the larger ones are most and equally likely and the smaller one is less likely to be lost.
5. If all three are different, the one with the largest count is most likely and the one with the lowest count is least likely to be lost.

**Pseudocode for Printing all lost Shoes:**

1. Get the count of lost shoes of Small Size
2. If the count is 0, print no shoe is lost
3. Else loop and find shoes which are lost and print details
4. Repeat 1 - 3 for the Medium and Large Sizes.