**Presence Check Pseudocode:**

If TextFieldContents = empty OR Combobox Selection = empty Then

Output “Ensure all information has been entered.”

Endif

**Character Check Pseudocode:**

Set badCharacter = “,”

Set badCharacterFound = false

For each character in TextFieldContents text

If character = “,” Then

badCharacterFound = True

End If

End Loop

If badCharacterFound = True Then

Output “Do not use the character:” + badCharacter

End if

**Range Check Pseudocode:**

Set x

Set y

If NOT (TextFieldContents > x AND TextFieldContents < y) Then

Output “Value must be between” + x + “and” + y

End if

**Double Entry Validation:**

If NOT (TextFieldContents1 = TextFieldContents2) Then

Output “Ensure entered data matches”

End if

**Processes Pseudocode:**

**Create Account Button Pressed:**

Set Username = UsernameTextField

Set UsernameValidation = UsernameTextFieldValidation

Set Password = PasswordTextField

Set PasswordValidation = PasswordTextFieldValidation

Set SecurityLevel = SecurityLevelTextField

If NOT (Login file exists)

Create Login File

End if

If Username = Username Validation AND Password = PasswordValidation

Append to file (Username + “,” + Password + “,” + SecurityLevel)

End if

**Encrypt Document**

Set i = 0

Set Keyword = “Frigate”

Foreach record in file

Foreach character in record

Set CharacterAscii = ASCII value of character

CharacterAscii += ASCII value of letter (i) in Keyword

If CharacterAscii > 127

CharacterAscii = CharacterAscii – 127

Set NewCharacter = Character value of CharacterAscii

Write character to temporary file

i += 1

End for

End for

Delete previous file and rename temporary file to previous file’s name.

**Decrypt Document**

Set i = 0

Set Keyword = “Frigate”

Foreach record in file

Foreach character in record

Set CharacterAscii = ASCII value of character

CharacterAscii += ASCII value of letter (i) in Keyword

If CharacterAscii < 0

CharacterAscii = 127 – Character Ascii

Set NewCharacter = Character value of CharacterAscii

Write character to form in program

i += 1

End for

End for

**Login Button Pressed**

Set Username = UsernameTextField

Set Password = PasswordTextField

Foreach record in file

If Username = First field in record

If Password = Second field in record

Set SecurityClearance = Third field in record

SHOW Switchboard form

HIDE Login form

End if

End if

End for

OUTPUT “Username or password incorrect”

**On Program Startup**

If Login File Exists

SHOW Login form

HIDE Splash Screen

End If

If Not (Login File Exists)

SHOW Account Creation form

HIDE Splash Screen

End if

**Display Login Accounts:**

Decrypt login details

Foreach record in file

Display record in list box

End for

**Edit Login Account Button Press:**

Set n = number of records

Set NewUsername = NewUsernameTextField

Set NewPassword = NewPasswordTextField

Set NewSecurityLevel = NewSecurityTextField

Set Line = record number of selected line

For i = 0 to Line - 1

Copy record to temporary file

End for

Append new NewUsername, NewPassword, NewSecurityLevel

For j = Line to n

Copy record to temporary file

End for

Delete previous file

Rename temporary file to name of previous file

**Add tool to inventory button press:**

Set Manufacturer = ManufacturerTextField

Set Category = CategoryTextField

Set Type = TypeTextField

Set Name = NameTextField

Set Quantity = Quantity Text Field

If Sale = true

Set Status = Sale

Set Price = SalePriceTextField

Else

Set Status = Rent

Set Price = RentPriceTextField

End if

Set ToolImagePath = ImageFieldPath

Set DamageNotes = “”

Set Currently Rented =False

If Inventory file exists

Set RecordNumber = First Element of last line in file

Else

Create Inventory File

Set RecordNumber = 0

End if

For I = 0 to Quantity

Append to record to inventory file (record ID, Manufacturer, Category, Type, Name, Status, ToolImagePath, DamageNotes, CurrentlyRented)

Record Number +=1

End for

**Backup and Archive Settings:**

Set backupPath = BrowseFunction()

BrowseFuntion()

Open explorer window

Return (Selected File Path to Folder)

End Function

Delete previous backup settings file

Create new backup settings file with backupPath

**Loyalty Points Settings:**

Set PointValue = ValueTextField

Set EarnRate = EarnTextField

Delete previous Loyalty Points Settings file

Create new Loyalty Points Settings file with PointValue and EarnRate fields

**Rental Algorithm Settings:**

Set BaseCostPerDay = BaseCostPerDayTextField

Set FlatCharge = FlatChargeTextField

Delete previous Rental Algorithm Settings file

Create new Rental Algorithm Settings file with BaseCostPerDay and FlatCharge fields

**Filter tools for temporary inventory file**

Declare toolDetailsArray (0 to 9)

For each line in file

Set toolDetails = line

Set toolDetailsArray = split line with comma

If toolDetailsArray(5) = “Sale” and sale filter = true

Write toolDetails to new file.

If toolDetailsArray(5) = “Rent” and sale filter = false

Write toolDetails to new file.

Next

**Display tools in table**

Set x = 0

Set y = 0

Declare toolDetailsArray (0 to 9)

For each line in file

Set x = 0

Set toolDetails = line

Set toolDetailsArray = split line with comma

For Each field in toolDetailsArray

Table(x, y) = field

x += 1

Next

y += 1

Next

**Amend Inventory**

Set ID = First element of selected line

Set I = 0

For i = 0 to Set ID

Append line to temporary file

Next

Append (ToolIDTextField text, ManufacturerTextField text, CategoryTextField text, TypeTextField text, NameTextField text, Sale/RentalField text, BasecostTextField text, imagePathTextField text, notesTextField text, currentlyRentedTextField text)

For I = SetID to End of file

Append line to temporary file

Next

Delete previous file

Rename temporary file to that of the original file.

**Customer Sale / Rental**

Open form ‘Tool Table’

Declare toolDetailsArray (0 to 9)

Set ManufacturerTextField = toolDetailsArray(1)

Set CategoryTextField = toolDetailsArray(2)

Set TypeTextField = toolDetailsArray(3)

Set NameTextField = toolDetailsArray(4)

Set ImageBox = Get image from path toolDetailsArray(7)

If toolDetailsArray(5) = Rental

Open form ‘verify customer’

Set CustomerNameTextField = CustomerArray(1)

Set pricePerDay = Rental Algorithm File(0) \* toolDetailsArray(6)

Set flatCharge = Rental Algorithm File(1)

Set cost = (returnDateTextField value- HireDateTextField value) \* pricePerDay + flatCharge

Set loyaltyPointRate = Loyalty Points file(1)

Set LoyaltyPointsEarned = loyaltyPointRate \* cost

Set cost = cost – loyaltyPointsTextField text \* Loyalty Points file(0)

Set costVAT = cost + cost \* (Vat file(0) / 100)

Append to transaction log (Rental ID, toolDetailsArray(0), CustomerArray(0), HireDateTextField value, returnDateTextField value, false, cost, costVAT, loyaltyPointsTextField text, (loyaltyPointsTextField text \* Loyalty Points file(0))

For i = 0 to toolDetailsArray(0) -1

Copy record from inventory file to temporary file

Next

Write to temporary file (toolDetailsArray(0), toolDetailsArray(1), toolDetailsArray(2), toolDetailsArray(3), toolDetailsArray(4), false, toolDetailsArray(6), toolDetailsArray(7), toolDetailsArray(8), toolDetailsArray(9))

For I = toolDetailsArray(0) + 1 to End of file

Copy record from inventory file to temporary file

Next

End if

If toolDetailsArray(5) = Sale

Set Cost = toolDetailsArray(6)

Set costVAT = cost + cost \* (Vat file(0) / 100)

Append to transaction log (Sale ID, toolDetailsArray(0), currentDate, Cost, costVAT)

For i = 0 to toolDetailsArray(0) -1

Copy record from inventory file to temporary file

Next

For I = toolDetailsArray(0) + 1 to End of file

Copy record from inventory file to temporary file

Next

Delete previous file

Rename temporary file to that of the original file.

Form Tool Table:

Set x = 0

Set y = 0

Declare toolDetailsArray (0 to 9)

For each line in file

Set x = 0

Set toolDetails = line

Set toolDetailsArray = split line with comma

For Each field in toolDetailsArray

Table(x, y) = field

Set x += 1

Next

Set y += 1

Next

Return Selected Tool

Verify Customer:

Set Forename = ForenameTextField Text

Set Surname = SurnameTextField Text

Set Address = AddressTextField Text

Set found = false

Foreach line in customer file

CustomerArray(0 to 6)

if CustomerArray (1) = Forename AND CustomerArray (2) = Surname AND Address = CustomerArray (5)

Set found = true

Return (CustomerArray (1), CustomerArray (2))

End if

Next

If found = false

Open ‘Add customer’ form

End if

Add Customer Form:

Set Forename = ForenameTextField Text

Set Surname = SurnameTextField Text

Set Address = AddressTextField Text

Set Birthdate = SurnameTextField Text

Set number = ContactNumberTextField Text

Append to customer log (Forename, Surname, Address, Birthdate, number, 0)

**Return Tool:**

Set Forename = ForenameTextField Text

Set Surname = SurnameTextField Text

Set Address = AddressTextField Text

Set Notes = NotesTextField Text

Declare customerDetailsArray (0 to 6)

Declare transactionDetailsArray (0 to 9)

Declare toolDetailsArray (0 to 9)

Declare ToolIDsArray

Declare FinaltoolDetailsArray(0 to 9)

Set i = 0

*//Search customer file for customer ID using these*

For each line in customer file

Set customerDetailsArray = split line with comma

If customerDetailsArray(1) = Forename AND customerDetailsArray(2) = Surname AND customerDetailsArray(5) = Address

Set Customer ID = customerDetailsArray(0)

End if

Next

*Using customer ID, we now search for the Tool IDs that this customer is currently renting in the transaction log.*

For each line in transaction file

Set transactionDetailsArray = split line with comma

If Customer ID = transactionDetailsArray(2)

ToolIDsArray(i) = transactionDetailsArray(1)

End if

Set i = i +1

Next

*Now we can get the tools from the inventory that this customer is renting and display them in a box for selection.*

For each line in inventory file

Set toolDetailsArray = split line with comma

If toolDetailsArray(0) = ToolID

Add toolDetailsArray to box

End If

Next

*// Now we need to return the selected tool. Select tool and get tool ID. Mark as returned in inventory and add notes.*

Set toolDetailsArray = split selected line with comma

Set ID = toolDetailsArray*(0)*

For each line in inventory file

Set toolDetailsArray = split line with comma

If toolDetailsArray(0) = ID

toolDetailsArray(9) = “false”

End if

For i = 0 to toolDetailsArray(0) -1

Copy record from inventory file to temporary file

Next

toolDetailsArray(8) = toolDetailsArray(8) + Notes

Append to temporary file (toolDetailsArray)

For i = toolDetailsArray(0) + 1 to end of file

Copy record from inventory file to temporary file

Next

Next

Delete original inventory file

Rename temporary file to name of original file

*// Find most recent tool in transaction log with that tool ID and mark as returned.*

For i = 0 to transaction file length

Set j = transaction file length – i

Set transactionDetailsArray = split line j with comma

If transactionDetailsArray(1) = ID

transactionDetailsArray(5) = true

For i = 0 to transactionDetailsArray (0) -1

Copy record from transaction file to temporary file

Next

Append to temporary file (transactionDetailsArray)

For i = transactionDetailsArray (0) + 1 to end of file

Copy record from transaction file to temporary file

Next

Break Loop

End if

Next

**File backup:**

For each txt file in directory