Algorithms

Tuesday, 30 January 2018   7:45 PM

Sorting

BEGIN SortList(PatientList, SortBy)

    CLEAR lsvPatientList

    IF SortBy == "ID" **THEN**

        WHILE PatientList.Length != 0 **THEN**

            LowestID = PatientList[0].ID

            FOR int i = 0 **TO** PatientList.Length - 1

                IF PatientList[i].ID <= LowestID **THEN**

                    LowestID = PatientList[i].ID
                    CurrentEntryToAdd = I

                END IF

            END FOR

            ADD PatientList[CurrentEntryToAdd] **TO** lsvPatientList
            REMOVE CurrentEntryToAdd **FROM** PatientList

        END WHILE

    IF ELSE SortBy == "Name" **THEN**

        WHILE PatientList.Length != 0 **THEN**

            LowestValue = GetLetterValue(Patient[0].LastName.FirstLetter)

            FOR int i = 0 **TO** PatientList.Length - 1

                IF GetLetterValue(Patient[i].LastName.FirstLetter) <= LowestValue **THEN**

                    LowestValue = GetLetterValue(Patient[i].LastName.FirstLetter)
                    CurrentEntryToAdd = I

                END IF

            END FOR

            ADD PatientList[CurrentEntryToAdd **TO** lsvPatientList
            REMOVE CurrentEntryToAdd **FROM** PatientList

        END WHILE

    IF ELSE SortBy == "Age" **THEN**

```
            WHILE PatientList.Length != 0 THEN

                    LowestAge = PatientList[0].Age

                    FOR int i = 0 TO PatientList.Length - 1

                            IF PatientList[i].Age <= LowestAge THEN

                                    LowestAge = PatientList[i].Age
                                    CurrentEntryToAdd = I

                            END IF

                    END FOR

                    ADD PatientList[CurrentEntryToAdd] TO lsvPatientList
                    REMOVE CurrentEntryToAdd FROM PatientList

            END WHILE

    IF ELSE SortBy == "Visits" THEN

            WHILE PatientList.Length != 0 THEN

                    LowestVisits = PatientList[0].Visits

                    FOR int i = 0 TO PatientList.Length - 1

                            IF PatientList[i].Visits <= LowestVisits THEN

                                    LowestVisits = PatientList[i].Visits
                                    CurrentEntryToAdd = I

                            END IF

                    END FOR

                    ADD PatientList[CurrentEntryToAdd] TO lsvPatientList
                    REMOVE CurrentEntryToAdd FROM PatientList

            END WHILE

    END IF

END
```

Search

Here, 'tempsearchlist' is a global variable.

```
BEGIN Search(request)

    Searchterm = ' '

    IF request != '' AND request != defaultdisplaytext THEN
```

```
            Searchterm = request

    END IF

    IF searchingagain = false THEN

            FOR i = 0 TO searchlist.Count

                    Tempsearchlist.Add(searchlist[i])

            NEXT I

            FOR i = 0 TO searchlist.Count

                    IF searchlist[i].Contains(searchterm) = false THEN

                            Searchlist.Remove[i]
                            I = I - 1

                    END IF

            NEXT I

            Searchingagain = true

    ELSE

            Searchlist.Clear()

            FOR I = 0 TO tempsearchlist.Count

                    IF tempsearchlist[i].Contains(searchterm) THEN

                            Searchlist.Add(tempsearchlist[i])

                    END IF

            NEXT I

    END IF

END
```

AgeCalculator

```
BEGIN AgeCalculator(dateofbirth)

    birthday = dateofbirth.RemoveIndexOf('/')
    birthmonth = dateofbirth.SubstringIndexOf('/').RemoveIndexOf('/')
    birthyear = dateofbirth.RemoveIndexOf('/').RemoveIndexOf('/')
    age = currentyear - birthyear - 1

    IF birthmonth < currentmonth OR (birthmonth = currentmonth AND birthday >= currentday)
    THEN

            age = age + 1
```

END IF

RETURN age

END

GetLetterValue

BEGIN GetLetterValue(letter)

IF letter == 'A' **THEN**

RETURN 0

ELSE IF letter == 'B' **THEN**

RETURN 1

ELSE IF letter == 'C' **THEN**

RETURN 2

ELSE IF letter == 'D' **THEN**

RETURN 3

ELSE IF letter == 'E' **THEN**

RETURN 4

ELSE IF letter == 'F' **THEN**

RETURN 5

ELSE IF letter == 'G' **THEN**

RETURN 6

ELSE IF letter == 'H' **THEN**

RETURN 7

ELSE IF letter == 'I' **THEN**

RETURN 8

ELSE IF letter == 'J' **THEN**

RETURN 9

ELSE IF letter == 'K' **THEN**

RETURN 10

ELSE IF letter == 'L' **THEN**

RETURN 11

ELSE IF letter == 'M' **THEN**

    RETURN 12

ELSE IF letter == 'N' **THEN**

    RETURN 13

ELSE IF letter == 'O' **THEN**

    RETURN 14

ELSE IF letter == 'P' **THEN**

    RETURN 15

ELSE IF letter == 'Q' **THEN**

    RETURN 16

ELSE IF letter == 'R' **THEN**

    RETURN 17

ELSE IF letter == 'S' **THEN**

    RETURN 18

ELSE IF letter == 'T' **THEN**

    RETURN 19

ELSE IF letter == 'U' **THEN**

    RETURN 20

ELSE IF letter == 'V' **THEN**

    RETURN 21

ELSE IF letter == 'W' **THEN**

    RETURN 22

ELSE IF letter == 'X' **THEN**

    RETURN 23

ELSE IF letter == 'Y' **THEN**

    RETURN 24

ELSE IF letter == 'Z' **THEN**

    RETURN 25

END IF

END