Files

- Arrays and variables are temperory memory so the data will be lost if the program gets closed.

Q- Why do we need files?

- To store data permenantly.
  1 1

Writing To a text file:

- Writing to a text file means creating a text file.
- All the previous data would be deleted and a file would be written from scratch.

Pseudocode for Writing File

```
OPENFILE "Filename" FOR WRITE

WRITEFILE "Filename", "string"/variable

CLOSEFILE "Filename"
```

School

Q- Store all the names which are present in an Array with 700 elements in a new file.

```
DECLARE School: ARRAY [1:700] OF STRING
DECLARE Index : INTEGER

OPEN "Names.txt" FOR WRITE
FOR Index = 1 TO 700
    WRITEFILE "Names.txt", School[Index]
```

```
ENDFOR
CLOSEFILE "Names.txt"
```

Appending to a File

- Sometimes we may wish to add data to an existing file rather than creating a new file

- It adds data at the end of an existing file.

Pseudocode for Appending File

```
OPENFILE "Filename" FOR APPEND

WRITEFILE "Filename", "string"/variable

CLOSEFILE "Filename"
```

Reading a File

· Whenever you want to search something from an existing file we use "FOR READ"

Pseudocode for Reading File

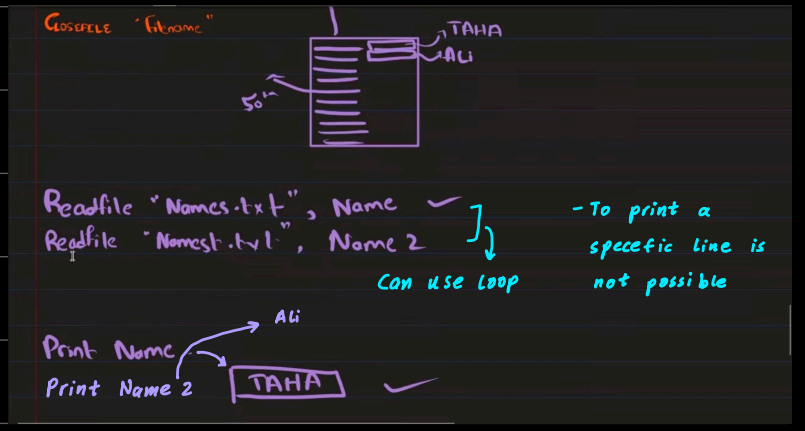
- File consists of lines

```
OPENFILE "Filename" FOR READ

READFILE "Filename", variable   → Reads a line and stores all the data in a variable

CLOSEFILE "Filename"
```

- Read file always start from 1st line
- No need to specify line



Q- There is an existing file known as sample.txt, print all of its content and it contains 500 lines.

```
DECLARE Line : INTEGER
DECLARE Filedata : STRING

OPEN FILE "sample.txt" FOR READ
FOR Line = 1 TO 500
    READFILE "sample.txt", Filedata
    PRINT Filedata
ENDFOR
```

Concept of EOF

- IF you want to read a file from beginning to end and you don't know how much lines one file contains we use a conditional loop.

EOF ("Filename")

- Returns True / False
- This function tests whether the marker has been reached or not.

- Text files contain a special marker at the end of a file that we can test for.

Q- Read a File "Sample.txt" and print all its contents

```
DECLARE Filedata : STRING
OPENFILE "Sample.txt" FOR READ
WHILE NOT EOF("Sample.txt")   DO   → WHILE EOF("Filename") = False
        READFILE "Sample.txt", Filedata
        PRINT Filedata
END WHILE
```

Q- There is a music file and it contains data about CD on each line.

Format is :

Title	Artist Name	Location
40 characters	40 characters	8 characters

E.g: kind of Green Miles Colfrane Rock 3-23

(Title: kind of Green; Artist name: Miles Colfrane; Location: Rock 3-23)

User will input location and you have to search that location

and then print the title and artist name and how many CD's are related to that location with suitable message.

```
DECLARE CD : INTEGER
DECLARE Location, MusicData, MusicLocation, Title, Artist : STRING


OPENFILE "Mymusic.txt" FOR READ
CD=0
Input Location
WHILE NOT EOF("Mymusic.txt") DO
      READFILE "Mymusic.txt", MusicData
      MusicLocation = RIGHT(MusicData, 8)
      IF MusicLocation = Location
         THEN
            Title= LEFT(MusicData, 40)
            Artist = MID(MusicData, 41, 40)
            CD = CD +1
```

```
            PRINT "Artist Name: " & Artist
            PRINT "Title: " & Title
        END IF
    ENDWHILE
    PRINT "CD's related to the location: ", CD
    CLOSEFILE "Mymusic.txt"
```