**File Handling in python:**

Why do we need to use files in python: let’s say we are using regular variables which hold the data temporarily . But what if you want to save the data in a persistent way(longer period). Even if I close the application I want to store the data somewhere, hence we are using permanent storage. One way is to use a relational database(which have tables etc..) a bit complex. Hence we are going to use a file. Think of it like storing some information on a text/excel file.

We can make use of inbuilt function **open(“filename”,”mode”(which can be open/read/write))**

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The above code give us some information that is stored in the my data file and ‘r’ means read operation.

* Now to read the file we need to mention open() as shown below
* Graphical user interface, text, application

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* Now what if we want to print single line rather than printing all the lines. When you give ctrl+Space we will get some options as shown below.

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* Let’s use readline and print the output, which will give the first line as output.

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* Let’s print 2 lines with the help of below code. We are repeating readline() 2nd time. Output will give a space between the first line and second line as print will give a space by default.

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* If you don’t want new line, we can use end=”” as shown below

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* If you want to print ONLY first 4 characters. We can do it with the help of below code by mentioning 4 in readline. This will print ONLY print the first 4 characters in the file.Graphical user interface, text, Word

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* Now let’s check about how to ***write data***. Since we used **‘r’** to read the data. We need to use **‘w’** to write data

In the below code, the moment you run the line **f1 = open(‘abc’, ‘w’)** – we know that w means write, python will check if there is a file ***abc*** in our current folder and updates it accordingly with the write command, if the file is not available it will create a new file which is ***abc.txt*** and update it.

* In the below screenshot we can see that after running the second line, a new file has been created ***‘abc’*** which is an empty file.

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* Let’s say we want to write something to it, we will run the below. It will update the file accordingly. Visit the file abc which is created and you should see ‘something’

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* If you run the below code, it will overwrite the file with Laptop word and the previous data is lost.

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* Now what if we want to append and now we don’t want to delete the laptop word and we want to add mobile as well. Check the below code : keyword we use is **‘a’** rather than ‘w’
* Check the abc file after running the code.

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* Let’s think about copying the entire data from MyData file to abc file. Read all the data from MyData and write the data.
* First we need to fetch the entire data from MyData file, we can do this by readline. Do we need to use multiple times? How do we know your file will end. We can use a loop to fetch the lines one by one
* First we will fetch the data using the below code.

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* In the same way we can write a loop to write the data as shown below. Check the output and we should see the data in the file ***MyData***

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* Now let’s place a photo in the same folder as this file, let’s try to print the image(yes, it is in a format and we know that everything is zero’s and one’s (binary) format and images will have pixels and some other metadata. When we try to print the image with the help of below given script, observe the output for the error message.

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* To understand this we need to know that in files, we have two different modes 1)character mode 2)binary mode.
* Here with our image file we know that it is in binary format, so to read such file we need to mention **‘rb’** whichmeans ***read binary*** and run the code as shown below and observe the output.

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* Let’s say we want to copy the pic to another pic, we can do it as mentioned below code. We are ***rb(read binary)*** and ***wb(write binary)***. It will create a new image as ***MyPic.JPG*** in the same folder.

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Check the newly created picture and we can see that the pic has been copied.