

If useful

1. Programmer
 - a. Be useful to a project
 - i. Learn the architecture of the project.
 - b. Doubts will keep coming...
 - i. Are we willing to write a small program to clarify our doubt
 - ii. Theory has to be respected
 1. Without that there is no science..
 - c. In today's world people can kill us with opinions
 - i. So generalize your learning, so we have less things to remember.
 - ii. People means.. java , python, javascript. C++ disease guys these have, take same thing and call it with different names..
 - d. When people keep screaming lot of things are changing... .
 - i. Ask them what things have not changed in computer science for last 50 years... learn that first..
2. Know the basis on which we are categorizing the files. This could vary from project to project , in our case we have
 - a. Fate.py
 - b. Presentation.py
 - c. Service.py
 - d. Model.py
3. Knowing the programming language meaning hopefully we know
4. Be 5/5 in variables and functions, what does it mean.
 - a. Functions
 - i. Define a function.
 1. Think who is going to call it
 2. How will you tell failure or success?
 3. First focus on
 - a. Input argument
 - b. Return type.
 - c. Double check input argument and return type is correct or not.
 - d. Finally come to the logic, don't come to this in the beginning itself.
 - ii. Calling a function
 1. Open documentation. if scared, start a timer and tell if it cross more than 10 minutes I will leave it and go..
 2. Read what function does.
 3. Read what does its input mean.
 4. Read how do you know whether it succeeds or fails.
 - 5.
 - b. variable
 - i. do we know the operation we want to perform on the variable?
 1. then choose the data type.
 2. of course content will be there..
 3. model creation
 - a. we are creating a project specific data type
 - i. content == variables in the class
 - ii. operations = functions present in the class.

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- b. Using the project specific data type
 - i. Just like we type `i=3`, creating an object means we are using the model. `X=Employee()`
 - ii. scope of the variable
 - iii. meaning of assignment.
 - 1. Basic data types assign in a different way , object types assign in a different way.
 - 2. Passing input arguments and returning from functions are assignments.
- 5. Data structure
 - a. Think of the operations.
 - b. Think what will content of the data structure, it can be object.
 - c. When in doubt write a new file `doubt.py` and clarify your doubt than ruining the actual project.
- 6. Exception Handling
 - a. Know which lines causes what exception.
 - b. Except:
 - i. Specific exceptions as far as possible
 - c. On need basis else and finally blocks.
 - d. Ensure function returns properly ..
 - i. One execution function returns an object.
 - ii. One execution the same function returns none.
 - iii. Horrible. let function return something consistently.
- 7. Database part
 - a. Know the location of your database what your program is using properly.
 - b. Know your table structure and column types and column names don't do astrology.
 - c. When you have a doubt in the sql command try it outside python and not in python..
 - i.e. try in the tool which you use to visualize the database. ... DB Browser....
 - d. Prove connection is got.
 - e. For every function, let it be insert, update or delete
 - i. Know what happens when where condition fails
 - ii. Know what happens when constraint gets violated.
 - f. For select command
 - i. Know when query returns no rows, how will you know
 - ii. How to push contents of the result in a query to a List of objects
 - 1. Example we got a device information from the Device table, now we should know how to move it to a List of Device , here Device will be the model.
 - iii. When you get only one row
 - 1. Query based on primary key.
 - 2. Return type need not be a datastructure, it can just be some model.
 - iv. When you get multiple rows
 - 1. Query based on non-primary key.
 - 2. Return type need to be a datastructure, typically a list.. which contains some model objects.
- 8. File handling
 - a. Where you want to start reading, where you want to start writing.
 - b. Know the location of the file.

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- c. Think whether you want to do it in
 - i. Binary format
 - ii. Text format.

9. JSON

- a. A variable representation standard.
- b. Useful in web services.
- c. Any language will give you mechanism to convert object of that language into JSON and vice versa.
- d. In web services, when service function are called via http, the input and return type will come thru JSON

10. Web

- a. http for makeup.. presentation..
 - i. Html,css
- b. http as a cover on the service function
 - i. ie call service functions via http protocol.
- c. Know what are we using http for..