FREQUENTLY ASKED QUESTIONS
BASICS OF PYTHON

1. **Can we convert '*int*' into '*string*' datatype?**
   Ans: Yes, we can convert an '***int***' into a '***string***' datatype, but the vice versa is not always possible.
   Example:

```
In [19]: a = 10
    ...: a = str(a)
    ...: print(a)
10

In [20]: b = 'a'
    ...: b = int(b)
Traceback (most recent call last):

  File "<ipython-input-20-e66d203a343f>", line 2, in <module>
    b = int(b)

ValueError: invalid literal for int() with base 10: 'a'
```

2. **What is anaconda distribution?**
   Ans. Anaconda is a free and open-source distribution of the Python and R programming languages for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc.), that aims to simplify package management and deployment.

3. **Why do we use Spyder? Can we use Pycharm?**
   Ans. You can use PyCharm as well. From a teaching point of view Spyder provides a very good interface.

4. **What is the maximum number of variables that we can delete using "del a,b,c.....n"? Is it many or is there any limit to no.of variables?**
   Ans. There is no limit for deleting the variables. You can delete 'n' number of variables using del command.

5. **What is the full form of SAS and SPSS ?**
   Ans. SAS-Statistical Analysis System & SPSS-Statistical Package for the Social Sciences

6. **What is the difference between data science and big data analytics?**
   Ans. Data science is a multidisciplinary blend of data inference, algorithm development, and technology in order to solve analytically complex problems. Big data analytics is the use of advanced analytic techniques against very large, diverse data sets that include structured, semi-structured and unstructured data, from different sources, and in different sizes from terabytes to zettabytes.

7. **Where to execute the command *cd* to change the working directory? Is it in command prompt or somewhere else? If it is command prompt how it gets affected by the Spyder tool?**
   Ans. You can use the spyder interface itself to set your directory using *cd* command. No need to use the command prompt.

8. **What is raw data?**
   Ans. The data that is not processed for use is called raw data.

9. **Can we trace the program that we have written in spyder IDE?**
   Ans. The history of the codes written in spyder IDE will be available in the *History log* tab.

10. **What is an IDE and why should we use IDE?**
    Ans. An IDE stands for *Integrated Development Environment.* It is a software application consisting of a cohesive unit of tools required for development. It is designed to simplify software development. Utilities provided by IDEs include tools for managing, compiling, deploying and debugging software.

11. **Can I use a jupyter notebook?**
    Ans. If you are new to programming, better to use Spyder, if you are experienced, you can use jupyter.

12. **When is the assignment operator '==' used?**
    Ans. The '==' operator is used to check if the values of the two variables are equal or not, if it is equal it will return true or else it will return false.

13. **There are various editors available like notepad++ , visual studio etc . Why and where do you use it?**
    Ans. Editors are used to run the python program as per your application..
    Like spyder is used when you want to observe dataset in data science..

Jupyter is useful when you want to run the python program with its running notes, storing images links with it etc...

14. **How can I Clear Console?**
I am trying to clear the console (Output). I am trying to use %Clear. But it shows an error.
Ans. It's %clear(small c). Or else place the cursor in the console window and you can use the shortcut key Ctrl+L from the keyboard.

15. **What is version control?**
Ans. Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later.

16. **Can we either work on pycharm ?**
Ans. Pycharm is the advanced version of python. You can use Pycharm if you are comfortable with it.

17. **What is the difference between pascal and camel case?**
Ans. Pascal- capitalizes each word ex: PascalCase
Camel Lower Casing - is similar to pascal case but the first word is not capitalized
Camel Upper Casing - is similar to pascal case but the first word is capitalized

18. **Can we save the file in any format ?**
Ans. You have to save a file in .py format in order to use it later.

19. **How to open multiple files in python spyder?**
Ans. Although clicking on the Spyder icon will not allow you to open two instances, you can open a second instance by simply going to the folder where spyder.py is and running spyder.py from the command line.

20. **I have an excel sheet that has string values and I need to convert to float. But I'm getting an error Valueerror: could convert string to float. what to do in such cases?**
Ans. Not all string values can be converted to float. String values like '2' can be converted to float since these are numerical values enclosed between quotes. However if you have a string value 'ABC' you will not be able to convert them to float.

21. **How can I assign values to multiple variables in one instance?**
Ans.You can assign values to multiple variables at once then you can give as x,y=20,30

22. **How important is precedence in an operator?**

Ans. If more than one operator is involved in an expression, Python language has a predefined rule of priority for the operators. This rule of priority of operators is called operator precedence.

23. **What is the difference between anaconda software and the syder software?**

Ans. Anaconda is a tool box. It provides different IDEs. Spyder is one of the many IDEs that Anaconda provides.

24. **What about specifying data type for a variable that is not assigned a value. Should it be specified before hand or will python figure it out as the program progresses.**

Ans. Python automatically figures out the datatype of each variable with value assigned to it.

25. **What is the relation between data science and python**

Ans. Python is a programming language.

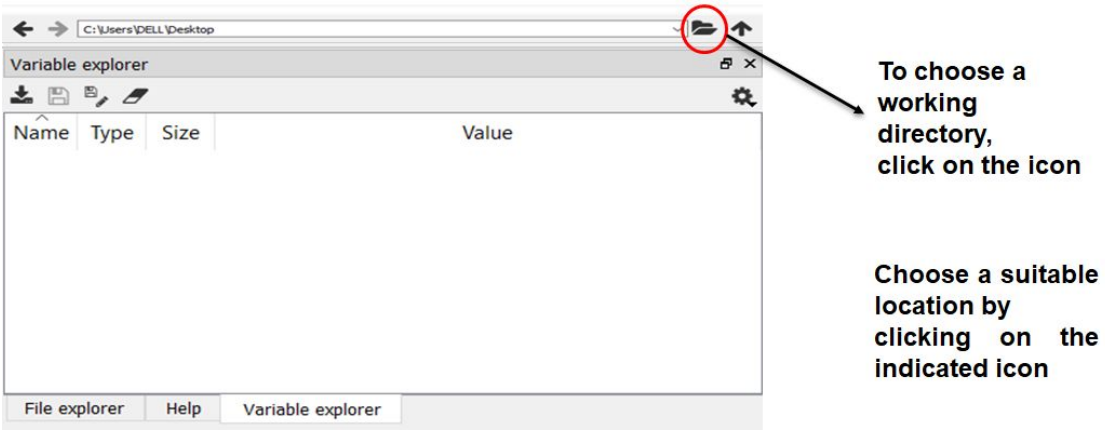
Data science is a multidisciplinary blend of data inference, algorithm development, and technology in order to solve analytically complex problems.

26. **How to set the working directory?**

There are three ways to set a working directory

- Icon
- Using library os
- Using command cd

<u>Using Icon:</u>



Type the following in the console

Using library os:

```
# Import os to setup the working directory
import os

# Setting the working the directory
os.chdir('C:/Users/DELL/Desktop')
```

Using command cd:

```
cd C:/Users/DELL/Desktop
```

27. What are the basic data types in Python?

Basic data types	Description	Values	Representation
Boolean	represents two values of logic and associated with conditional statements	True and False	bool
Integer	positive and negative whole numbers	set of all integers, Z	int
Complex	contains real and imaginary part (a+ib)	set of complex numbers	complex
Float	real numbers	floating point numbers	float
String	all strings or characters enclosed between single or double quotes	sequence of characters	str

28. How to identify the datatype of an object?

Data type of object can be identified using the command **type(object)**

29. How to verify an object data type?

To verify if an object is of a certain data type the following syntax can be used:

type(object) is datatype

Example:

```
Employee_name="Ram"
Age=55
Height=150.6
```

Verifying the data type of an object

```
In [13]: type(Height) is int
Out[13]: False

In [14]: type(Age) is float
Out[14]: False

In [15]: type(Employee_name) is str
Out[15]: True
```

30. How to coerce objects to new data type?

- Convert the datatype of an object to another
- Syntax: **datatype(object)**
- Changes can be stored in same variable or in different variable