

Assignment-1

- 1) When did Indian data scientist prefer to use open source tools over paid or custom made tools
 - a) 2016
 - b) 2017
 - c) 2018**
 - d) 2019
- 2) Choose incorrect variable description below
 - a) 1_variable**
 - b) variable_1
 - c) variable1
 - d) none of these

5-mark

3) Briefly explain about Spyder.

Sol:

- Supported across Linux , Mac OS X and Windows platform
- Available as open source version
- Can be installed seperately or through Anaconda distribution
- Developed for python and specifically Data Science
- It's featues are:
 - a) code editor with robust syntax and error highlighting
 - b) Code compilation and navigation
 - c) Debugger
 - d) Integrated document
- Interface similar to MATLAB and RStudio.

4) Explain Indexing with respect to Sequence data operations.

Sol:

- Indexing just means accessing elements
- To access elements , the square bracket can be used
- There are many methods to access elements in python
- Index() method finds the first occurrence of the specified value and return its position

- Syntax : `object.index(sub[,start[end]]),object[index]`
 - a) index of the elements is used to access an elements from ordered sequence
 - b) Index starts from 0
 - c) Negative indexing is used to access elements from the end of the list
 - d) In negative indexing , the last elements of the list has index -1

7-Mark

5) Explain variables.

Sol:

- Values assigned to variables using an assignment operator '='.
- Variable name should be short and descriptive .
- Avoid using variable names that clash with inbuilt functions.
- Designed to indicate the intent of its use to the end user.
- Avoid one character variable names.
- One character variable names are usually used in looping constructs, functions etc.
- Variables can be named alphanumerically
e.g., Age = 55 , age = 55 , Age2 = 55 , age2 = 55
- However the first letter begins with alphabets
- Only other special character is underscore(_)
e.g., Employee_id = 601

6) Brief about Sequence data type

Sol:

- Sequence allow you to store multiple values in an organized and efficient fashion
- There are several sequence types : strings , unicode strings , lists , tuples , arrays and range objects
- Dictionaries and sets are containers for non-sequential data
 - a) Strings - sequence of character - " (or) '
 - b) Tuples - sequence of compound data type objects - ()
 - c) Lists - sequence of multi-data type objects - []
 - d) Arrays - sequence of constrained list of objects using array module from any package
 - e) Dictionary - sequence of key-value pairs - { }
 - f) Sets - Sequence of unordered collection of unique data
 - g) Range - used for looping -using built in range
- These can offer unique functionalities for the variables and handle more than one data datatype at a time
- Supports operations such as indexing,slicing , concationation,multiplictation etc.