1. Which of the following is a python program extension?

* .json
* .c
* .py
* .p

2. IoT stands for  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Internet of Things.
* Internet for Teaching.
* All of the above.
* Input Output Technology.

3. Cloud computing and fog computing have the same concept.

* True
* False

4. In the second part of the course, which python environment will be used?

* Jupyter
* VScode
* IDLE
* As I like

5. what is the output? print ('2' + '2')

* 22

6. Python is a scripting language.

* True
* False

7. Select the true statements (Select two)

* Python is free, open-source, and multiplatform
* Python is a good choice for creating and executing tests for applications
* Python is faster compared to c++
* Python2 is compatible with Python3

8. What is the output? print (2 \*\* 2 \*\* 3)

* 256

9. Functions in Python can come from (Select more than one answer if needed)

* Built-in
* import from another languages like c++
* own functions
* modules

10. This code has no error.

x = input ('Enter a number')

y = x + 1

print (y)

* True
* False

11. Usually, Interpreter is faster than the complier.

* True
* False

12. Select the true statements about compilation (Select two)

* You need a complier to run the code
* The code is converted directly into machine code executable by the processor
* It tends to be slower than interpretation
* It tends to be faster than interpretation

13. What do you call a file containing a program written in a high-level programming language?

* A target file
* A machine file
* A code file
* A source file

14. Computers have a native language; just like us. Computers' native language is called Machine Learning.

* True
* False

15. You want to invoke the function make\_money() contained in the module named mint. Your code begins with the following line:

from mint import make\_money

What is the proper form of the function's invocation?

* make\_money
* make\_money()
* All the above
* mint.make\_money()

16. How to get information about a package in python

* All the above.
* pip --version will tell you that.
* pip3 --version will tell you that.
* pip show package will tell you that.

17. A PWG-lead repository, collecting open-source Python code, is called:

* PyRep
* PWGR
* PyPI
* PyCR

18.  How to uninstall a package named pygame?

* pip uninstall pygame

19. What is the expected output of the following code?

for ch in "abc":

     print(chr(ord(ch) + 1), end='')

* bcd
* 97 98 100
* Error
* abc

20. You want to invoke the function make\_money() contained in the module named mint. Your code begins with the following line:

import mint

What is the proper form of the function's invocation?

* mint.make\_money
* make\_money()
* mint.make\_money()
* All the above

21. Python is completely internationalized - we can use UNICODE characters inside our code, read them from input and send to output.

* True, because Python 3 is Ascii.
* All the above
* True, because Python 3 is I18N.
* True, because Python 3 is UCS-4

22. The name pip comes from:

* all the above
* package in package
* pip install packages
* python internal packages

23.

abc

|\_\_

         def

               |\_\_ mymodule.py

Assuming that D:\Python\Project\Modules has been successfully appended to the sys.path list, write an import directive letting you use all the mymodule entities.

* All the above
* import mymodule.py
* import abc.def.mymodule
* from abc import \*

24. What is the expected output of the following code?

the\_list = ['Where', 'are', 'the', 'snows?']

s = '\*'.join(the\_list)

print(s)

* Error, it is immutable
* Where\*are\*the\*snows
* Where\*are\*the\*snows?
* Where are the snows?

25. What is the expected result of the following code?

s1 = '12.8'

i = int(s1)

s2 = str(i)

f = float(s2)

print(s1 == s2)

* Error
* ValueError
* True
* False

26. Which one of the following is true?

* Modules can contain packages.
* Packages can contain modules.
* Modules can contain modules.
* All the above.

 27. The version of Python I have is 3.7 and there are many packages in the system, but pip list does not work, what would be the reason?

* pip is not installed.
* The path is not set correctly.
* You should use pip3 list.
* I need more information to answer this question.

28. write a line to import pi from math as PI

* from math import pi as PI

29. In the procedural approach, the data can use the functions.

* True
* False

30. If we assume that pythons, vipers, and cobras are subclasses of the same superclass, how would you call it?

* Cars
* All the above
* People
* Snake or reptile

31. Is there something missing in the following code?

class Snakes

     def \_\_init\_\_():

                self.sound = 'Sssssss'

* The \_\_init\_\_() constructor lacks the obligatory parameter (we should name itself to stay compliant with the standards).
* Calling the super class.
* Nothing is missing.
* self.\_\_sound = 'Sssssss'

32. choose the correct answer.  
class Python:

   population = 1

   victims = 0

   def \_\_init\_\_(self):

         self.length\_ft = 3

         self.\_\_venomous = False

* population and victims are class variables
* population and \_\_venomus are class variables
* population and victims are instance variables
* length and \_\_venomous are class variable

33. What is the name of the most general of all Python exceptions?

* Except
* MemoryError
* BaseException
* AssertionError

34. Can you name one of your classes just "class"?

* Yes, I can and why not?
* I can, but there is no need for that.
* No, class is a function.
* No, class is a keyword.

35. What is the output?

class Snake:

     pass

class Python (Snake):

    pass

print (Python.\_\_name\_\_, 'is a', Snake.\_\_name\_\_)

print (Python.\_\_bases\_\_[0].\_\_name\_\_, 'can be', Python.\_\_name\_\_)

* Error
* Python is a Snake Snake can be Python
* Python is a Python Snake can be Python
* Python is a Snake Snake can be Snake

36. The priority of **ZeroDivisionError** is higher than the **ArithmeticError** in the Exceptions-tree, that is why the Arithmetic error should be always before the ZeroDivisionError.

* True
* False

37. Write only one line.

Assuming that there is a class named Snakes, write the very first line of the Python class declaration, expressing the fact that the new class is actually a subclass of Snake.

* class Python(Snakes):

38. What is the output of the following snippet? (Assume the file is NOT exist)

import errno

try:

    stream = open("file", "rb")

    print("exists")

         stream.close()

except IOError as error:

     if error.errno == errno.ENOENT:

          print("absent")

    else:

          print("unknown")

* unknown
* absent
* exists
* errno.ENOENT → No such file or directory

39. What is the problem with this program? If there is!

from datetime import timedelta  
from datetime import date  
from dateTime import datetime

delta = timedelta(weeks=2, days=2, hours=2)  
print(delta)

delta2 = delta \* 2  
print(delta2)

d = date(2019, 10, 4) + delta2  
print(d)

dt = datetime(2019, 10, 4, 14, 53) + delta2  
print(dt)

* we should use try except form
* No problem found, it is working
* we should write from datetime import \*
* dateTime no such module

40. What is the expected output of the following code?

import math

try:

     print(math.sqrt(9))

except ValueError:

    print("inf")

else:

    print("fine")

* Error
* fine
* 3.0 fine
* 3.0

41. Write a **lambda** function, setting the least significant bit of its integer argument, and apply it to the map() function to produce the string 1 3 3 5 on the console.

any\_list = [1, 2, 3, 4]

even\_list = # Complete the line here.

print(even\_list)

Hint: the " opertation does the following :

even | 1 = even + 1

odd | 1 = odd

* list(map(lambda n: n | 1, any\_list))

42. What is the output

foo = [i + i for i in range(5)]

print (foo)

* 0 2 4 6 8
* [1 , 3, ,5 7, 9]
* [0. 2. 4 .6 .8]

43. You're going to process a bitmap stored in a file named image.png, and you want to read its contents as a whole into a *bytearray* variable named image. Add a line to the following code to achieve this goal.

try:

   stream = open("image.png", "rb")

   # Insert a line here.

      stream.close()

except IOError:

     print("failed")

else:

     print("success")

* image=bytearray(stream.read())
* image = bytearray(stream.read())
* image = bytearray(stream.read () )

44. x = lambda a, b: a \*\* b

print (x (2, 10))

* Error
* 1024
* 2222222222222

45. What is the output of the following snippet?

import calendar

print(calendar.weekheader(1))

* M T W T F S S

46. What is the meaning of the value represented by errno.EACESS?

* No such file or directory
* Bad file number
* Permission denied
* Too many open files

47. What is the expected output of the following code?

import math

try:

     print(math.sqrt(-9))

except ValueError:

    print("inf")

else:

     print("fine")

finally:

     print("the end")

* fine the end
* fine
* inf the end
* inf

48.What is the output of the following snippet?

from datetime import datetime

dt1 = datetime(2020, 9, 29, 14, 41, 0)

dt2 = datetime(2020, 9, 28, 14, 41, 0)

print(dt1 - dt2)

* 1 day, 0:00:00

49. What is the output of the following snippet?

from datetime import time

t = time(14, 39)

print(t.strftime("%H:%M:%S"))

* 14:53
* strftime is not defined
* 14:53:00
* Error

50. How do you encode an open() function’s mode argument value if you're going to create a new text file to only fill it with an article?

* ”wb”
* "rt"
* "wt" or "w"
* "rt" or "r

51. To import a csv file to a database in python, the \_\_\_\_\_\_\_\_\_\_- is used

* csvkit
* sql
* database sqlite3
* all the above

52. Matplotlib is used in python to get a data frame.

* True
* False

53. What is the purpose of this code?

!apt-get update  
!apt-get -y install sqlite3

* Install sqlite3 and -y is for yes during the installation process.
* update and install database
* Install sqlite3 and -y is needed in ubuntu only.
* Install sqlite3 and -y is an option means in your machine.

54. give a command line to connect a database named (python+bigdata.db) using python and sqlite3. Assume that everything in installed and imported

conn =

* conn = sqlite3.connect('python+bigdata.db')

55. BigData is more relevant to IoT.

* True
* False

56. To iterate in a database, we need t cursor() method to be assigned after the connection (conn)

for example : cur = conn.cursor()

* True
* False

57. From jupyter, install the csvkit (hint, use pip)

* !pip install csvkit

58. Which of the following is not in the data analysis steps?

* Use Python
* Prepare Data
* Make Decisions
* Choose a Model

59. speedtest-cli is a tool used to measure the speed of the internet, but it only works if the ping command works.

* True
* False

60. process for collecting data from a variety of sources, transforming the data, and then loading the data into a database

* Gather Data
* import data using pandas
* ETL
* deal with data using sqlite3

61. Add a new column called **rounded** to the dataframe and populate it with rounded weights, the name of the dataframe is **da** it has the following data, note the round is 2  wieght

0 1.00000

1 2.00000

2 3.00000

3 4.00000

* data['rounded'] = data.weight.round(2)
* da['rounded'] = da.weight.round(2)
* data['rounded'] = data.weight.lambda (2)(2)
* data['rounded'] = data.weight.Round(2)

62. Install a module call seaborn from jupyter

* !pip install seaborn

63. An example of numerical variable is weight or blood pressure.

* True
* False

64. To find the correlation for a data file imported in pandas as BB, you can use a method like:

* brainFrame.corr()
* BB.corr()
* brainFrame.corr(method='pearson')
* BB.describe()

65. Heat map is used to visualize the correlation for a dataframe!

* True
* False
* Table

  Description automatically generated66. Which method would you use to view table statistics? for a data frame called Data?

* All can be used
* Data.head()
* Data.dtype
* Data.describe()

67. To change the datatype of a column called **ping** in a data frame alled  **df\_compact\_clean**, you can use a lambda function in this way

df\_compact\_clean['Ping (ms)\_float'] = df\_compact\_clean['Ping (ms)'].apply(lambda val: float(val))

* True
* False

68. Write a command to view the five 5 lines of the dataframe imported by pandas as **brain.**

* brain.head()
* brain.head(5)

Table

Description automatically generated69. What is this table for?

* this is the output of describe() method in pandas
* The is the correlation for a dataframe.
* this is a dataframe file.
* This is output of head() method in pandas

70. df\_compact\_clean = df\_compact\_clean.reindex(columns = ['Date', 'Time', 'Ping (ms)','Download (Mbit/s)','Upload (Mbit/s)']);

what will be the first column?

Table

Description automatically generated

* Upload (Mbit/s)
* Download (Mbit/s)
* Date
* Time

71. in the following table, it is by coincidence, that the diagonal is 1 in thisTable

Description automatically generated correlation table

* True
* False

Table

Description automatically generated

72. Before saving the DataFrame, it makes sense to reposition Upload as the last column. This can be achieved using the reindex function.

ex: df\_compact\_clean = df\_compact\_clean.reindex(columns = ['Date', 'Time', 'Ping (ms)','Download (Mbit/s)','Upload (Mbit/s)']);

* True
* False

73.

Text

Description automatically generated

* Hi!
* None
* hi!
* Error

74.

Graphical user interface, application

Description automatically generated

* ‘A’
* Error
* “B”, “C”
* []

75.

A picture containing text, electronics, screenshot

Description automatically generated

* [‘A’, ‘B’, ‘C’, ‘’]
* Error
* [‘’, ‘C’, ‘B’, ‘A’]
* [a, b, c, d]

76.

A picture containing application

Description automatically generated

* Copying lists
* Printing ‘C’
* Slicing and Copying
* Slicing lists

77.

Graphical user interface, text, application, chat or text message

Description automatically generated

* 4
* 6
* Syntax Error
* abc

78.



* 0 and 0
* 0 and 3
* 3 and 0
* Error

79.

Graphical user interface, text, application

Description automatically generated

* 2 3
* 2 2
* 1 3
* 1 2

80.

Text, application, chat or text message

Description automatically generated

* None
* hi!
* nothing
* Error

81.

Graphical user interface, text, application, chat or text message

Description automatically generated

* 7
* [7, 7]
* 1
* Error

82.

Text

Description automatically generated

* one
* zero
* two
* three

83. Which of the following is structured data?

* .xls
* white paper
* web page
* .cxs

84. Which of the following is unstructured data?

* .csv
* .db
* .text
* .xls

85. Big Data can be defined:

Data is so vast, fast, or complex that it becomes impossible to store, process, and analyze using traditional data storage and analytics applications.

* True
* False

86. Which of the following is considered data storage?

* sql
* python
* mysql
* excel

87. Today, data is growing ----------------

* linearly
* exponentially
* randomly
* rapidly

88. Which of the following is structured data:

* .docx
* .pdf
* photo
* .csv

89. Given the following nested list, use indexing to grab the word “Hi Big Data learner”.



* Ist[2][2]
* Ist[2] [2]

90. Which of the following is unstructured data?

* .csv
* email
* .db
* all the above

91. Data in Motion

* Data stored for analyzing
* requires real-time process
* backup data
* Data mves from place to another

92. Which of the following ARE type pf data?

* Open Data
* Public Data
* Close Data
* Private Data

**11, chapter**

**A researcher does not use a temperature sensor correctly. What kind of error will be?**

Gross Error

Random Error

Systematic Error

Noise Error

**When using the ML to predict something based on the given data, Calculating the noise ratio is important. One needs to know how correct is the prediction is.**

True

False

**To calculate the error,  which module used (according to the labs)**

order = 1  
p = np.poly1d(np.polyfit(x, y ,order))

from \_\_\_\_\_\_\_\_\_  import r2\_score

r2 = r2\_score(y, p(x))  
r2

sklearn metrics

sklearn

scikit

seaborn

**To draw an arrow on a figure, then you can use the method called \_\_\_\_\_\_\_\_\_\_ from the matplotlib module (plt)**

plt.xticks()

plt.plot()

plt.annotate()

plt.legend()

|  | **district** | **sales** | **stores** |
| --- | --- | --- | --- |
| **0** | 1 | 231.0 | 12 |
| **1** | 2 | 156.0 | 13 |
| **2** | 3 | 10.0 | 16 |
| **3** | 4 | 519.0 | 2 |
| **4** | 5 | 437.0 | 6 |

**If the dataframe above called SA, you can reach the Sales column in this way  SA.['sales']**

True

False

|  | **district** | **sales** | **stores** |
| --- | --- | --- | --- |
| **0** | 1 | 231.0 | 12 |
| **1** | 2 | 156.0 | 13 |
| **2** | 3 | 10.0 | 16 |
| **3** | 4 | 519.0 | 2 |
| **4** | 5 | 437.0 | 6 |

**Drop the District column using the drop method. (Donot create a new dataframe, drop it from this dataframe itself) Important: the dataframe names is *df***

df.drop('district',axis=1,inplace=True)

sales = df.drop('district',axis=1)

df.drop('district',axis=1)

sales = df.drop('district',axis=1, inplace=True)

**To fill a NaN values in a column in the age column , you can use the following code**

**Note: the dataframe called *training***

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 915 entries, 0 to 914

Data columns (total 12 columns):

PassengerId 915 non-null int64

Survived 915 non-null int64

Pclass 915 non-null int64

Name 915 non-null object

Gender 915 non-null object

Age 738 non-null float64

SibSp 915 non-null int64

training["Age"].fillna(training["Age"].mean())

training["Age"].fillna(training["Age"].mean(), inplace=True)  
training["Age"].fillna(training["Age"].mean(), axces=1)  
training["Age"].dropna()

**Need a target to work**

Data Mining  
Unsupervised ML  
Supervised ML  
All are correct

**What method/function produces this output  from a dataframe called PP**

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 915 entries, 0 to 914

Data columns (total 12 columns):

PassengerId 915 non-null int64

Survived 915 non-null int64

Pclass 915 non-null int64

Name 915 non-null object

Gender 915 non-null object

Age 738 non-null float64

SibSp 915 non-null int64

PP.describe

PP.head()

PP.info()  
info(PP)

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 915 entries, 0 to 914

Data columns (total 12 columns):

PassengerId 915 non-null int64

Survived 915 non-null int64

Pclass 915 non-null int64

Name 915 non-null object

Gender 915 non-null object

Age 738 non-null float64

SibSp 915 non-null int64  
  
According to the above lines, In which column(s) there are NaN values.

Gender  
Pclass  
No NaN values are there  
Age

**Learn from the data itself**

Supervised ML

Unsupervised ML  
AI  
Data Mining