

Data Visualization using Python Lab

Academic year 2025 - 2026

Lab Practice Test - IV

Section 1: Multiple-Choice Questions (MCQs)

1. What does the `re.match()` function do in Python?
 - a) Searches for a pattern in a string and returns the first match.
 - b) Matches the pattern at the beginning of a string.
 - c) Finds all occurrences of the pattern in a string.
 - d) None of the above.
2. Which of the following expressions matches any sequence of characters?
 - a) `r"\d"`
 - b) `r"\w"`
 - c) `r"\s"`
 - d) `r".*"`
3. What is the purpose of the `try` block in error handling?
 - a) To catch exceptions.
 - b) To raise exceptions.
 - c) To execute code that may raise an exception.
 - d) To handle specific types of errors.
4. Which of the following is the correct syntax for raising an exception in Python?
 - a) `raise Exception("Error occurred!")`
 - b) `throw Exception("Error occurred!")`
 - c) `raiseError("Error occurred!")`
 - d) `exception("Error occurred!")`
5. Which of the following is NOT a built-in exception in Python?
 - a) `ValueError`
 - b) `TypeError`
 - c) `InvalidArgumentError`
 - d) `KeyError`

What is the output of the following code snippet?

```
def foo():
```

```
yield 1
yield 2
yield 3
```

```
for val in foo():
    print(val)
```

- 6.
- a) 1 2 3
 - b) 1
 - c) 1 2
 - d) None
7. Which of the following is the correct way to import a specific function from a module?
- a) `from module import function_name`
 - b) `import function_name from module`
 - c) `import module.function_name`
 - d) `function_name import module`
8. Which of the following is the correct way to open a file for reading in Python?
- a) `open("file.txt", "r")`
 - b) `open("file.txt", "write")`
 - c) `open("file.txt", "read")`
 - d) `open("file.txt", "open")`
9. Which of the following methods is used to append content to a file?
- a) `open("file.txt", "a")`
 - b) `open("file.txt", "w")`
 - c) `open("file.txt", "r")`
 - d) `open("file.txt", "x")`
10. Which of the following is the correct syntax to create a generator function?
- a) `def my_generator(): yield`
 - b) `def my_generator(): return`
 - c) `def my_generator(): continue`
 - d) `def my_generator(): pass`
11. Which Python function is used to check if a string matches a regular expression pattern?
- a) `re.match()`
 - b) `re.search()`
 - c) `re.fullmatch()`
 - d) All of the above
12. What is the purpose of the `re.sub()` function in Python?

- a) To search for a pattern and replace it with a new string.
 - b) To match a pattern in the string.
 - c) To split the string based on the pattern.
 - d) To check if the pattern exists in the string.
13. Which of the following is the correct way to catch an exception?
- a) `try: ... except Exception: ...`
 - b) `try: ... catch Exception: ...`
 - c) `catch Exception: ... try: ...`
 - d) `exception try: ...`
14. Which of the following functions is used to import all functions from a Python module?
- a) `import module`
 - b) `from module import *`
 - c) `import * from module`
 - d) `import all from module`
15. What will happen if you try to open a file that does not exist with the `open()` function in "r" mode?
- a) It will create a new file.
 - b) It will raise a `FileNotFoundError`.
 - c) It will return an empty file.
 - d) It will raise a `NameError`.

Section 2: Coding Exercises

1. Write a Python program to find all occurrences of the word "Python" in a given text and replace them with "Java". Use regular expressions.

Example:

```
text = "Python is great. I love Python."
```

2. Write a Python program that reads a text file and counts the number of occurrences of each word in the file. Handle possible errors like file not found and print an appropriate message.

Example:

```
# File: sample.txt
# Hello world! Hello Python.
```

1.

3. Create a generator function that yields the Fibonacci sequence up to `n` terms. The function should raise an exception if `n` is less than 1.

Example:

```
# Input: n = 5
# Output: 0, 1, 1, 2, 3
```

4. Write a Python function that takes a string and checks if it is a valid email address using regular expressions. The function should return `True` if the email is valid and `False` otherwise.

Example:

```
# Input: "test@example.com"
# Output: True
```

5. Write a Python function that opens a file, reads the contents, and prints each line with line numbers. Use error handling to catch situations when the file cannot be opened.