Q1. In Python 3.X, what are the names and functions of string object types?

Method Description

capitalize() Converts the first character to upper case

casefold() Converts string into lower case

center() Returns a centered string

count() Returns the number of times a specified value occurs in a string

encode() Returns an encoded version of the string

Q2. How do the string forms in Python 3.X vary in terms of operations?

string.ascii\_letters

The concatenation of the ascii\_lowercase and ascii\_uppercase constants described below. This value is not locale-dependent.

string.ascii\_lowercase

The lowercase letters 'abcdefghijklmnopqrstuvwxyz'. This value is not locale-dependent and will not change.

string.ascii\_uppercase

The uppercase letters 'ABCDEFGHIJKLMNOPQRSTUVWXYZ'. This value is not locale-dependent and will not change.

string.digits

The string '0123456789'.

string.hexdigits

The string '0123456789abcdefABCDEF'.

string.octdigits

The string '01234567'.

string.punctuation

String of ASCII characters which are considered punctuation characters in the C locale: !"#$%&'()\*+,-./:;<=>?@[\]^\_`{|}~.

string.printable

String of ASCII characters which are considered printable. This is a combination of digits, ascii\_letters, punctuation, and whitespace.

string.whitespace

A string containing all ASCII characters that are considered whitespace. This includes the characters space, tab, linefeed, return, formfeed, and vertical tab.

Q3. In 3.X, how do you put non-ASCII Unicode characters in a string?

# Import unidecode module from unidecode

from unidecode import unidecode

# Get transliteration for following

# non-ASCII text (Chinese)

print(unidecode("谢谢你"))

# Get transliteration for following

# non-ASCII text (Japanese)

print(unidecode("ありがとう。"))

# Get transliteration for following

# non-ASCII text (Russian)

print(unidecode("улыбаться Владимир Путин"))

Q4. In Python 3.X, what are the key differences between text-mode and binary-mode files?

The two file types may look the same on the surface, but they encode data differently. While both binary and text files contain data stored as a series of bits (binary values of 1s and 0s), the bits in text files represent characters, while the bits in binary files represent custom data.

Q5. How can you interpret a Unicode text file containing text encoded in a different encoding than your platform's default?

def n\_possible\_values(nbits: int) -> int:

return 2 \*\* nbits

Q6. What is the best way to make a Unicode text file in a particular encoding format?

unicode\_text = u'ʑʒʓʔʕʗʘʙʚʛʜʝʞ'

encoded\_unicode = unicode\_text.encode("utf8")

a\_file = open("textfile.txt", "wb")

a\_file.write(encoded\_unicode)

a\_file = open("textfile.txt", "r")

r reads contents of a file

contents = a\_file.read()

print(contents)

OUTPUT

ʑʒʓʔʕʗʘʙʚʛʜʝʞ

Q7. What qualifies ASCII text as a form of Unicode text?

Ans)The first 128 Unicode code points represent the ASCII characters, which means that any ASCII text is also a UTF-8 text. UCS-2 uses two bytes (16 bits) for each character but can only encode the first 65,536 code points, the so-called Basic Multilingual Plane (BMP).

Q8. How much of an effect does the change in string types in Python 3.X have on your code?

str.isalnum() String consists of only alphanumeric characters (no symbols)

str.isalpha() String consists of only alphabetic characters (no symbols)

str.islower() String’s alphabetic characters are all lower case

str.isnumeric() String consists of only numeric characters

str.isspace() String consists of only whitespace characters

str.istitle() String is in title case

str.isupper() String’s alphabetic characters are all upper case