Q1. Describe the differences between text and binary files in a single paragraph.

Answer:

🡪 Text files are a unique type of binary file that is designed to hold plain text or rich text with human-readable characters. While text files store information in sequential bytes, rather than individual bits, each character is represented by a series of bits in the file.

🡪 Binary files are a specific kind of computer file that organize data in a sequence of bytes arranged in eight-bit or sixteen-bit groups. These groups of bits stand for custom data, and binary files have the ability to hold several kinds of data such as images, audio, and text, among others, all within a single file.

Q2. What are some scenarios where using text files will be the better option? When would you like to use binary files instead of text files?

Answer:

When compared to binary files, which can be used instead of text files for picture data, video, and audio, text files are less likely to get damaged since any unwanted changes may only become apparent once the file is viewed and then can be readily deleted. Text files are versatile and modest in size. They may be quickly and in large quantities shared through email or disc since they are kilobytes or megabytes less than the identical material saved in other formats. Most may be opened with extremely simple software on computers running a variety of operating systems. Numeric representations, as opposed to text characters, often consume less memory when storing values. Additionally, binary formats provide benefits in terms of access speed.

Q3. What are some of the issues with using binary operations to read and write a Python integer directly to disc?

Answer:

🡪 Binary operations deal with raw data

🡪 One needs to identify how many bytes one would read or write

Q4. Describe a benefit of using the with keyword instead of explicitly opening a file.

Answer:

When a file is opened using the 'with' keyword, it closes the file automatically if any exceptions arise during file opening or at the conclusion of the file. Consequently, a file would not need to be explicitly closed and would not remain in the open mode. When you use the 'with' operator, the file will be closed as soon as you exit the block. This is advantageous since it's simple to forget to close a file, and doing so frees up resources you don't need.

Q5. Does Python have the trailing newline while reading a line of text? Does Python append a newline when you write a line of text?

Answer:

🡪 Yes, Python does read a line of text with a trailing newline.

🡪 No, Python does not automatically attach a new line when we write a line of text; instead, a new line must be explicitly given at the end of the line.

Q6. What file operations enable for random-access operation?

Answer:

The file operations seek() and tell() are supported for random-access activities.

Q7. When do you think you'll use the struct package the most?

Answer:

Common Python types are typically converted into C language types using the struct package.

Q8. When is pickling the best option?

Answer:

Pickling is the best choice for creating new binary file with Python.

Q9. When will it be best to use the shelve package?

Answer:

The 'Shelve' package is used to store and retrieve python objects from a shelve file that stores the objects in a dictionary-like format and can be used to store objects across multiple program runs.

Q10. What is a special restriction when using the shelve package, as opposed to using other data dictionaries?

Answer:

Only the string data type can be used as a key in this special dictionary object, while any picklable Python object can be used as a value.