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

Python readline() method reads only one complete line from the file given. **It appends a newline (“\n”) at the end of the line**.

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?

Text files are used to store data more user friendly. Binary files are used to store data more compactly. In the text file, a special character whose ASCII value is 26 inserted after the last character to mark the end of file. In the binary file no such character is present.

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

**the file will be closed as soon as you leave the block**. This is beneficial because closing a file is something that can easily be forgotten and ties up resources that you no longer 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?

Python readline() method reads only one complete line from the file given. **It appends a newline (“\n”) at the end of the line**.

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

Thse are

1. position – Returns the channel's current position.
2. position(long) – Sets the channel's position.
3. read(ByteBuffer) – Reads bytes into the buffer from the channel.
4. write(ByteBuffer) – Writes bytes from the buffer to the channel.
5. truncate(long) – Truncates the file (or other entity) connected to the channel.

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

It is used mostly for **handling binary data stored in files or from network connections, among other sources**. This process needs to be done at the start of the program.

Q8. When is pickling the best option?

An untrusted client or an untrusted server can cause remote code execution. Thus pickle should never be used between unknown parties. Ensure the parties exchanging pickle have an encrypted network connection. This prevents alteration or replay of data on the wire.

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

The shelve module in Python's standard library is a simple yet effective tool for persistent data storage when using a relational database solution is not required. The shelf object defined in this module is dictionary-like object which is persistently stored in a disk file.

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

The shelf dictionary has certain restrictions. **Only string data type can be used as key** in this special dictionary object, whereas any picklable Python object can be used as value. This is the base class for shelf implementations.