What capability does the fstream data type provide that the ifstream and ofstream data types do not? -
"The fstream data type allows both reading and writing, while the ifstream data type allows only for reading, and the ofstream data type allows only for writing.

"
"Assume that the file data.txt already exists, and the following statement executes.

fstream file("data.txt", ios::out);

What happens to the file? -
Its contents erased then overwritten

How do you combine multiple file access flags when opening a file? -
us the | operator

Should file stream objects be passed to functions by value or by reference? Why? -
By reference because the internal state of file stream objects changes with most every operation. They should always be passed to functions by reference to ensure internal consistency.

"Under what circumstances is a file stream object's ios::hardfail bit set? What member function reports the state of this bit? -
Set when an unrecoverable error has occured. the fail() member function reports on this bit

"Under what circumstances is a file stream object's ios::eofbit bit set? What member function reports the state of this bit? -
" When the end of the file has been encountered. The eof member function reports the state of this bit

"Under what circumstances is a file stream object's ios::badbit bit set? What member function reports the state of this bit? -

Set when an invalid operation has been attempted. the bad() member function reports on this bit.

"How do you read the contents of a text file that contains whitespace characters as part of its data? -
" By using the getline member function

What arguments do you pass to a file stream object's read member function? -
Two arguments: The starting address in char form of the section of memory where the data will be stored, and the number of bytes to read.

What is the difference between the seekg and seekp member functions? -
The seekg function moves a file's read position, and the seekp function moves a file's write position.

"If a program has read to the end of a file, what must you do before using either the seekg or seekp member functions? -
" Call the file object's clear member function.

what typecast do you use to convert a pointer from one type to another? -
reinterpretcast

How do you rewind a sequential-access file? -
Use the seekg member function to move the read position back to the beginning of the file.

If a file fails to open, the file stream object will be set to _____. -
NULL or 0

The _____ function reads a line of text from a file. -
getline

The _____ member function writes a single character to a file. -
put

_____ files contain data formatted as _____. -
text, ASCII text

In C++, _____ provide a convenient way to organize data into fields and records.
-
structures

The _____ member function reads "raw" binary data from a file. -
read

"In _____ file access, the contents of the file are read in the order they appear in
the file, from the file's start to its end. -
" sequential

"The _____ member function moves a file's read position to a specified byte in
the
file. -
" seekg

The _____ member function returns a file's current read position. -
tellg

"The _____ mode flag causes an offset to be calculated from the beginning of a
file. -
" ios::beg

"The _____ mode flag causes an offset to be calculated from the current position in the file. -
" ios::cur

"Write a statement that defines a file stream object named places . The object will be used for both output and input. -
" fstream places("places.dat", ios::in | ios::out);

"Write two statements that use a file stream object named pets to open a file named pets.dat . (Show how to open the file with a member function and at the definition of the file stream object.) The file should be opened for input -
" pets.open("pets.dat", ios::in); fstream pets("pets.dat" ios::in);

"Write a program segment that defines a file stream object named employees . The file should be opened for both input and output (in binary mode). If the file fails to open, the program segment should display an error message. -
" fstream employees; employees.open("emp.dat", ios::in | ios::out | ios::binary); if (!employees) cout << "Failed to open file.\n";

"Write code that determines the number of bytes contained in the file associated with the file stream object dataFile . -
" dataFile.seekg(0L, ios::end); numBytes = dataFile.tellg(); cout << "The file has " << numBytes << " bytes.\n";

T F Different operating systems have different rules for naming files. -
TRUE

"T F ofstream objects, by default, delete the contents of a file if it already exists when opened. -
" TRUE

T F Several file access flags may be joined by using the | operator. -

TRUE

"T F If a file is opened in the definition of the file stream object, no mode flags may be specified. -
" FALSE

"T F The same output formatting techniques used with cout may also be used with file stream objects. -
" TRUE

"T F The getline member function can be used to read text that contains whitespaces. -
" TRUE

T F Binary files contain unformatted data, not necessarily stored as text. -
TRUE

"T F The tellp member function tells a file stream object which byte to move its write position to. -
" FALSE

```
"fstream file(ios::in | ios::out);
file.open(""info.dat"");
if (!file)
{
cout << ""Could not open file.\n"";
} -
```
" File should be opened as fstream file("info.dat", ios::in | ios::out); or fstream file; file.open("info.dat", ios::in | ios::out);

```
"fstream file(""info.dat"");
if (!file)
```

```
{
cout << ""Could not open file.\n"";
} -
```
" File access flags must be specified with fstream objects.


```
"fstream dataFile(""info.dat"", ios:in);
char stuff[81];
dataFile.get(stuff); -
```
" The file access flag should be ios::in. Also, the get member function cannot be used to read a string.


```
"fstream dataFile(""info.dat"", ios:out);
struct Date
{
int month;
int day;
int year;
};
Date dt = { 4, 2, 98 };
dataFile.write(&dt, sizeof(int)); -
```
" The file access flag should be ios::out. Also, the last line should read dataFile.write(reinterpret_cast(&dt), sizeof(dt));