

The Heap

1. In my source file *midshipman.c*, I created a pointer to a character buffer as follows to store each student's alpha code:

```
> char *alpha_ptr;
```

A) What must I type to allocate 10 bytes on the heap for this string?

```
>
```

B) After the midshipman graduates and no longer needs this string, what instruction would a responsible programmer include at the end of the program?

```
>
```

C) Why?

2. If I allocate memory for a string on the heap and it is assigned address 0x08049008, then the integer at address 0x08042B48 must be on the stack.

T **or** **F**

Explain.

3. Given the following variable:

```
> char school[10] = "USNA";
```

What would be the result of the following?

```
> strlen(school);
```

```
> strlen("school");
```

4. A) What are the 6 file control flags and what does each one mean?

1)

2)

3)

4)

5)

6)

B) Which flags would I use to open and read the file `Tecumseh.txt`, which may or may not exist, and then add some text to the end of it?

5. Compile the `simplenote.c` program on page 82. Run the program to create the note "Go Navy".

A) What file descriptor were you assigned?

B) What command can you issue to verify your note was added to the file?

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