Conceptual Questions

**Question 1:** Read – “r”

Write – “w”

Read and Write – “r+”

Append – “a”

**Question 2:** Dynamic memory allocation uses heap.

Stack is of fixed size whereas, in a heap more memory can be added later. Also once the program runs to completion, data in stack will be deleted whereas data on heap has to be manually deleted if not needed.

**Question 3:** Pointers are similar to any other variable except that instead of storing the actual value it stores the memory address of a variable.

To change the address that a pointer points to:

Eg:

To access that data the pointer points to:

Eg: int num = 5;

int \*numPointer;

numPointer = &num;

printf(\*numPointer);

The last line of code will print 5.

**Question 4:** When the malloc function is called it requests a block of memory from heap and when that memory is not needed, free function is called to deallocate the memory. A pointer is used to store the block of memory that is returned by malloc function

**Question 5:** malloc requires 1 argument whereas calloc requires 2 arguments. Also malloc does not initialize the memory allocated whereas calloc assigns 0 to the allocated memory.