

1. Write a *Stack* class.
 - a. private members: *array* , *head*
 - b. public member functions:
 - i. *void push()*,
 - ii. *void pop()*,
 - iii. *int peek()*,
 - iv. *int getSize()*,
 - v. *bool isEmpty()*
2. Correct the previous code.
 - a. Write *init* function.
3. Write a function that prints out all the elements of the stack.
 - a. *void dumpStack(Stack s){}*
4. Write a function that takes as argument a stack and makes a copy of the given stack. The function will return the copy.
 - a. *Stack copyStack(Stack s){}*
5. Write constructor function. (Empty constructor)
6. Write destructor function.
7. Update the definition of *Stack*.
 - a. Instead of a fixed length array use a pointer.
 - b. Update *init* function.
 - c. Write constructor function. (use *new*)
 - d. Write destructor function. (use *delete*)
 - e. Perform step practice problem 3 and 4 for the updated stack. Is it working ?
 - f. Instead of using the *copyStack()* function assign one stack to the using '=' operator. Then call *dumpStack()* with the new stack.

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8. Write a *String* class.

- a. private member:
 - i. Array of characters.
 - ii. Length
- b. Write constructor. Takes a string as parameter.
 - i. *String(char *s){}*
- c. public member function:
 - i. *void concat(char *s)*
- d. Overload *concat*
 - i. *void concat(int a);*
 - ii. *void concat(double d);*
 - iii. *void concat(char c);*
 - iv. *void concat(int a, char c);*
- e. Overload
 - i. Empty Constructor.
 - ii. Takes a string as input.
 - iii. Takes desired *length* of the string and creates a string with *length* number of spaces .

9. Update *String* class.

- a. private member:
 - i. Pointer to character.
 - ii. Length
- b. Update all the overloaded constructors.
- c. Use *concat*.
- d. Write Copy Constructor.
- e. Use *concat*.