

Exam 1 in Lab on Wednesday

Write and Submit a program in C

You are allowed:

- existing code,
- any notes,
- any books,
- internet access

The code will use one of the 4 ideas

- stack implemented via dynamic array
- stack implemented via linked list
- queue implemented via dynamic array
- queue implemented via linked list

You will be expected to use ONLY the standard functions/operations for stacks and queues

Stacks: push, pop, top, isEmpty

Queues: enqueue, dequeue, front, isEmpty

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Object Orient Programming

Structures on Steroids

```
public static void main( String[] args ) // use of static implies no implicit this parameter
{
  ClassX inst1; // created a reference

  inst1 = new ClassX ( ); // call to the Constructor which will allocate and initialize the instance
                        // store in the reference the address of the instance
                        // Instance : location in memory where all of the data members of the
                        // class have been located

  inst1.method1(); // call method1() as defined in classX

  // the following two calls are identical since staticMethod() is defined as static
  inst1.staticMethod();
```

ClassX.staticMethod(); // the format/notation used here is preferred

```
....
}

class ClassX
{
    private int val1;
    private int val2;

    public void method1() // no explicit parameters
                        // 1 implicit parameter : this
    {
        int val1 = 5;

        this.val1 = 7;
        val2 = 15;
    }

    public static void staticMethod ( ) // no explicit parameters
                                      // no implicit parameter
    { // the data members of the class cannot be access in the current method

    }

}
```