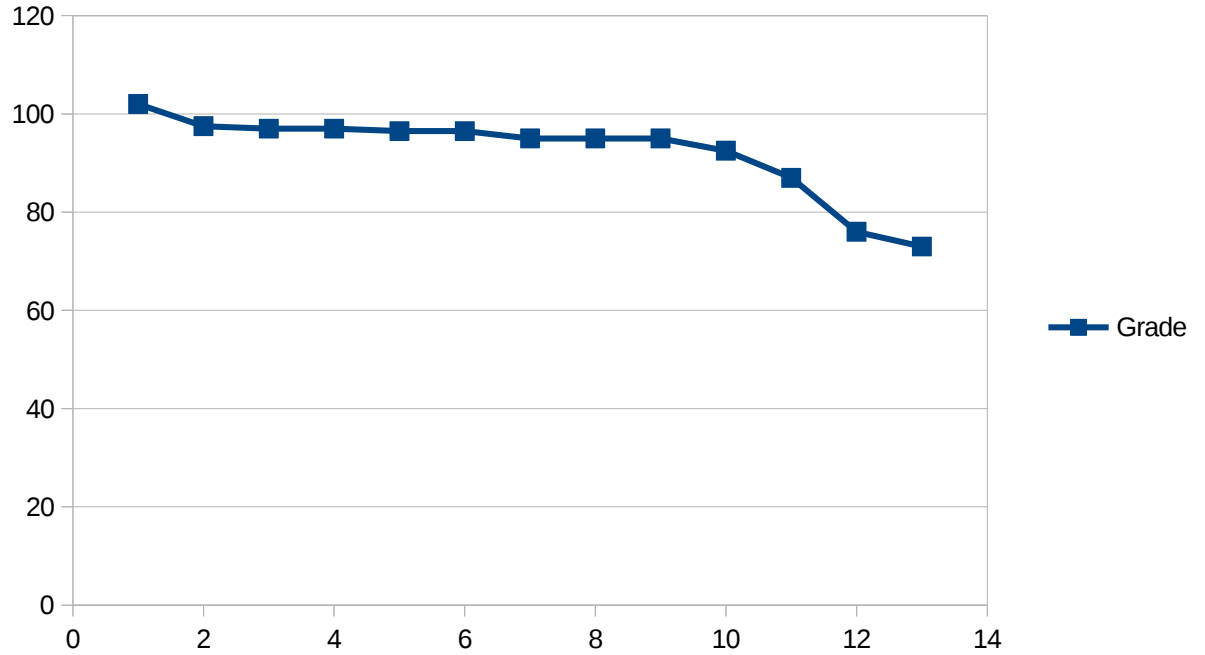
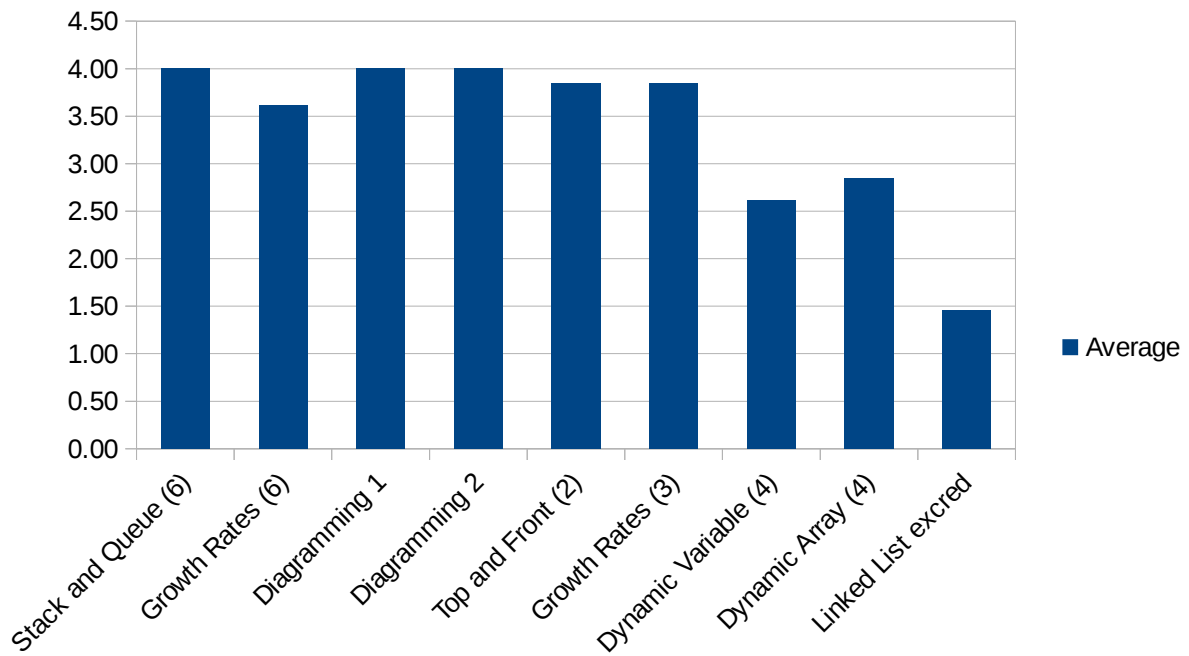


Overall grades:



Question scores:



Solution:

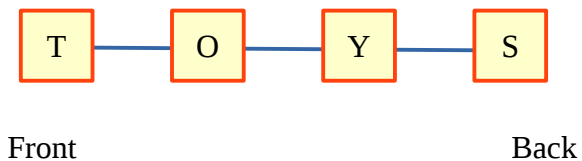
1. Answers depend on design, but must be consistent...

	Option 1	Option 2
Stack pop	Pop Back	Pop Front
Stack top	Get Back	Get Front
Stack push	Push Back	Push Front
Queue pop	Pop Front	Pop Back
Queue front	Get Front	Get Back
Queue push	Push Back	Push Front

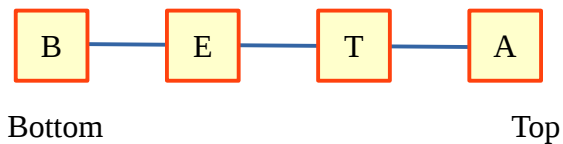
2. Growth rates...

Dynamic Array access	$O(1)$
Dynamic Array search	$O(n)$
Dynamic Array insert	$O(n)$
Linked List access	$O(n)$
Linked List search	$O(n)$
Linked List insert	$O(1)$

3. Diagramming 1



4. Diagramming 2



CS 250 Exam 2 stats, Fall 2018

5. Top and Front

- a. Stack Top(): A
- b. Queue Front(): D

6. Growth Rates

- a. $O(n^2)$
- b. $O(n)$
- c. $O(1)$

7. Dynamic Variable:

- a. `int * ptr = new int;`
- b. `*ptr = 100;`
- c. `cout << ptr;`

Many people put `cout << &ptr;` this gives you the address of the pointer variable, not the address of the variable that the pointer is pointing to.

- d. `delete ptr;`

8. Dynamic Array

- a. `char * ptr = new char[3];`
- b. `ptr[0] = 'A'; ptr[1] = 'B'; ptr[2] = 'C';`
- c. `cout << ptr;` or `cout << &ptr[0];`
- d. `delete [] ptr;`

9.

```
void Display()
{
    Node* ptrCurrent = ptrFirst;

    while ( ptrCurrent != nullptr )
    {
        cout << ptrCurrent->data << endl;
        ptrCurrent = ptrCurrent->ptrNext;
    }
}
```