Week 10 Quiz

Wednesday, December 3, 2025 ***YOUR NAME:*** Rentian Dang

CSCI 60
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Instructions. Answer the following questions as we discuss them in the first half of class. The files we are working with are `gamain.cpp`, `garray.h`, `garray.cpp`, `ga_iterator.h`, and `ga_iterator.cpp`. You can keep this sheet for reference. Bring it to class Friday or drop it off in the box outside my office any time before then for credit.

1. In which file would we have a range-based for loop?

gamain.cpp driver program which is the

2. What functions need to be declared in `garray.h`?

iterator begin() const; iterator end() const; begin and end function

3. What operators *must* be overloaded for `GA_Iterator` in order to use a range-based for loop for `GArray`, and where must they be declared?

bool operator!=(const GA_Iterator& rhs) const; int operator*() const;
GA_Iterator& operator++();

4. What private member variables do you and the person next to you recommend for `GA_Iterator`?

int* current_;
int* end_; // prevent the current_ pointer pointing to the out of bound index

5. Write one sentence each (no code) for what the inequality comparison, dereference, and increment operators are responsible for and, based on your choice of member variables, how they will do it.

In != operator, it compare current_ pointer on lhs with current_ pointer on rhs whether they are not equal, and end_ whether they have same end_ index point
In * operator, it dereferece current_ pointer
In increment operator, it increase current_ by current_+1 then it use end_ point to prevent current_ going over last index

6. Copy the function signature for one of the overloaded operators and write everything you can about exactly why the syntax is as it is.

```
bool operator!=(const GA_Iterator& rhs) const{
  //return !(current_ != rhs.current_ && end_ == rhs.end_);
} return (curr_ != rhs.curr || end_ != rhs.end_);
}
```