

COS30008 Data Structures and Patterns

Tutorial 6a (Iterator)

Given the following Iterator class for a collection of Employee objects and the declaration of the Employee class.

```
class Employee
{
private:
    int id;
    string name;
    double salary;
public:
    Employee();
    Employee(int, string, double);
    double getSalary();
    friend ostream& operator<< (ostream&, const Employee&);
};

class EmployeeIterator
{
private:
    const Employee* fEmpList;
    const int fSize;
    int fIndex;
public:
    EmployeeIterator(const Employee aEmpList [], const int aSize, int aStart=0);
    const Employee& operator*() const;
    EmployeeIterator& operator++();
    EmployeeIterator& operator++(int);
    bool operator==(const EmployeeIterator& aOther) const;
    bool operator!=(const EmployeeIterator& aOther) const;
    EmployeeIterator begin() const;
    EmployeeIterator end() const;
};
```

Write the implementation of both classes. Then write a main function to create a list of Employee objects. Then use the iterator to traverse and calculate the total salary of all employees in the collection.