Sheet04

Ming Qu 2896560

a)
member variable:
a variable (an object) that is part of a class.
member function:
a function that is part of a class.

```
class Class
{
public:
	void memberFunction();
private:
	int memberVariable;
};
```

constructor:
constructor is automatically called whenever a new object of this class is created. This constructor function must have the same name as the class, and cannot have any return type; not even void.
destructor:
The destructor fulfills the opposite functionality. It is automatically called when an object is destroyed. The destructor must have the same name as the class, but preceded with a tilde sign (~) and it must also return no value.
default argument:
a default argument is an argument to a function that a programmer is not required to specify.
public:
public members are accessible from anywhere where the object is visible.
private:
private members of a class are accessible only from within other members of the same class or from their friends.
protected:
protected members are accessible from members of their same class and from their friends, but also from members of their derived classes.

b)

```
//////////////Assignment 2
construct A: 4
construct A: 2
3 times left
construct A: 1
2 times left
destruct A: -1
1 times left
destruct A: 2
destruct A: 1
```

1. initialise two objects a1(4) and a2(2)
2. for a1: pass the parameter 4 to a, then counter = 4, print it; same as a2
3. object a1(4) calls the member function use(), - -counter = 3, print it: 3 times left.
4. initialise a new object a3, since there is no para for a3 to pass, so using the default parameter a=1, then print it
5. a3 calls the use() function, print nothing (since - -counter = 0)
6. a1 calls the use() function, - -counter=2, print : 2 times left
7. a3 calls the use() function, - - counter = -1, destruct it, and print: destruct A: -1.
8. a1 calls the use() function, - - counter = 1, print: 1 time left.
9. destruct a2. (counter = 2)
10. destruct a1 (counter = 1).