

Exercise 4

1. Constructor, Destructor & Vector

1-1. Description

- Create class 'Member' with the construction of

```
class Member{
private:
    string name;
    int age;
    string department;
public:
    Member(string name, int age, string department);
    ~Member();
    string getName();
    int getAge();
    string getDept();
    void print();
};
```

- Write your own code, that gets member information, can create or delete instance with message.
- names of Member are not like each other
- Contain Member instances inside vector

1-2. Input Description

- Enter name,age,department as many as you want
- Create instance immediately after you get a set of information for Member
- When QUIT is entered for name or department, or 0 is entered for age, then entering input is finished.
- After finishing input, the program prints out information of Members in turn, and deletes all Member Instances inside vector.
- Instance prints out messages when it is created and deleted

1-3. Input&Output Example

- Input part is marked by > in front.(Not in real implementation)

```
>Harry 37 Hogwarts
Harry is 37 years old.
>Viktor 41 Durmstrang
Viktor is 41 years old.
>Fleur 40 Beauxbatons
Fleur is 40 years old.
>QUIT 0 QUIT
Harry : Hogwarts, 37 years old.
Viktor : Durmstrang, 41 years old.
Fleur : Beauxbatons, 40 years old.
Harry is no longer in Hogwarts.
Viktor is no longer in Durmstrang.
Fleur is no longer in Beauxbatons.
```

2. Inheritance

2-1. Description

- Create class Student that inherits Person class as below.

```

class Person{
private:
string name;
int age;
string gender;//Male or Female
public:
Person(...);
~Person();
string getName();
int getAge();
string getGender();
void introduce();
};

```

- Function `void introduce()` prints out the information of Person class

NAME is AGE years old, and is GENDER

- class Student have its own member variable that saves school name.

- Function `void introduce()` of class Student prints out the information of Student class

NAME is AGE years old, and is GENDER
NAME is studying in SCHOOL

- names of Member are not like each other

2-2. Input Description

- At first line, input the `number(N)` of Person you would enter.
- From second line, for N lines, enter name, age, gender.
- Then, enter the `number(M)` of Students you would change person into student.
- For M lines, enter the name of person and the name of school.
- After all input is done, print out `introduce()` of all person.

2-3. Input Example

```

3
HyunIl 24 Male
Byunghoon 24 Male
Jiwoo 24 Female
2
Byunghoon dcslab
Jiwoo dcslab

```

2-4. Output Example

```

HyunIl is 24 years old, and is Male
Byunghoon is 24 years old, and is Male
Byunghoon is studying in dcslab
Jiwoo is 24 years old, and is Female
Jiwoo is studying in dcslab

```