```java
package structure;

import structure.exceptions.IncorrectDataException;

public class StudentsList {
    private final String NOT_UNIQ_ID = "This id isn't unique";
    private final String NULL_NAME = "Incorrect name";
    private final String NAME_DOESNT_EXIST = "This name doesn't exist
in the list";
    private final String ID_DOESNT_EXIST = "This id doesn't exist in
the list";

    private List list;
    private int length;

    private class List{
        private String name;
        private int id;
        private List next;

        public List(String name, int num){
            this.name = name;
            this.id = num;
            next = null;
        }
        public List getNext(){
            return next;
        }
        public void setNext(List list){
            next = list;
        }

        public int getId(){
            return id;
        }

        public String getName(){
            return name;
        }
    }

    public StudentsList(){
        length = 0;
        list = null;
    }
```

```
    public void add(String name, int id) throws IncorrectDataException
{
        if (name == null) throw new IncorrectDataException(NULL_NAME);
        if (list == null) {
            list = new List(name, id);
            ++length;
        } else {
            List tmp = list;
            while (true){
                if (list.getId() == id) throw new
IncorrectDataException(NOT_UNIQ_ID);
                if (tmp.getNext() != null) {
                    tmp = tmp.getNext();
                } else break;
            }
            tmp.setNext(new List(name, id));
            ++length;
        }
    }

    public String toString(){
        List tmp = list;
        String res = "";
        while (tmp != null){
            res = res + tmp.getId() + ", " + tmp.getName() + '\n';
            tmp = tmp.getNext();
        }

        return res;
    }

    public int length(){
        return length;
    }

    public String getName(int id){
        List tmp = list;
        while (tmp != null){
            if (tmp.getId() == id) return tmp.getName();
        }
        return null;
    }

    public int getId(String name) throws IncorrectDataException{
        if (name == null) throw new IncorrectDataException(NULL_NAME);
```

```
        List tmp = list;
        while (tmp != null){
            if (tmp.getName().compareTo(name) == 0) return tmp.getId();
        }

        throw new IncorrectDataException(NAME_DOESNT_EXIST);
    }

    public void delete(String name) throws IncorrectDataException{
        if (name == null) throw new IncorrectDataException(NULL_NAME);

        List tmp = list;
        boolean isDel = false;
        boolean isEqualWithHead = false;
        while(tmp != null){
            isEqualWithHead = tmp.getName().compareTo(name) == 0;
            if (tmp.getNext() != null &&
tmp.getNext().getName().compareTo(name) == 0 ||
                    isEqualWithHead) {
                if (!isEqualWithHead){
                    tmp.setNext(tmp.getNext().getNext());
                } else list = list.getNext();
                isDel = true;
            }
            tmp = tmp.getNext();
            isEqualWithHead = false;
        }

        if (!isDel) throw new
IncorrectDataException(NAME_DOESNT_EXIST);
    }

    public void delete(int id) throws IncorrectDataException{
        List tmp = list;
        while(tmp != null){
            if (tmp.getNext() != null && tmp.getNext().getId() == id ||
                    tmp.getId() == id) break;
            tmp = tmp.getNext();
        }

        if (tmp != null) {
            if (list != tmp){
                tmp.setNext(tmp.getNext().getNext());
            } else list = list.getNext();
        } else throw new IncorrectDataException(ID_DOESNT_EXIST);
    }
```

```
}
```