2. 实验任务

- 编写程序，实现一阶逻辑归结算法，并用于求解给出的三个逻辑推理问题，要求输出按照如下格式：

1. (P(x),Q(g(x)))
2. (R(a),Q(z),¬P(a))
3. R[1a,2c]{X=a} (Q(g(a)),R(a),Q(z))

… …

“R” 表示**归结**步**骤**.

“1a” 表示第一个子句(1-th)中的第一个 (a-th)个原子公式，即P(x).

“2c”表示第二个子句(1-th)中的第三个 (c-th)个原子公式，即¬P(a).

“1a”和“2c”是冲突的，所以**应**用最小合一{X = a}.

2. 实验任务

- Block World
  - On(aa,bb)
  - On(bb,cc)
  - Green(aa)
  - ¬Green(cc)
  - (¬On(x,y), ¬Green(x), Green(y))

```
[sysu_hpcedu_302@cpn238 ~/scc22/lsr/mp_linpack/resoluation]$ python main.py
5
On(aa,bb)
On(bb,cc)
Green(aa)
¬Green(cc)
(¬On(x,y), ¬Green(x), Green(y))
R[4,5c](y=cc) = ¬On(x,cc),¬Green(x)
R[3,5b](x=aa) = ¬On(aa,y),Green(y)
R[2,6a](x=bb) = ¬Green(bb)
R[1,7a](y=bb) = Green(bb)
R[8,9] = []
```

2. 实验任务

- Graduate Student
  - GradStudent(sue)
  - (¬GradStudent(x), Student(x))
  - (¬Student(x), HardWorker(x))
  - ¬HardWorker(sue)

```
[sysu_hpcedu_302@cpn238 ~/scc22/lsr/mp_linpack/resoluation]$ python main.py
4
GradStudent(sue)
(¬GradStudent(x), Student(x))
(¬Student(x), HardWorker(x))
¬HardWorker(sue)
R[3b,4](x=sue) = ¬Student(sue)
R[1,2a](x=sue) = Student(sue)
R[5,6] = []
```

2. 实验任务

- Aipine Club
  - A(tony)
  - A(mike)
  - A(john)
  - L(tony, rain)
  - L(tony, snow)
  - (¬A(x), S(x), C(x))
  - (¬C(y), ¬L(y, rain))
  - (L(z, snow), ¬S(z))
  - (¬L(tony, u), ¬L(mike, u))
  - (L(tony, v), L(mike, v))
  - (¬A(w), ¬C(w), S(w))

```
[sysu_hpcedu_302@cpn238 ~/scc22/lsr/mp_linpack/resoluation]$ python main.py
11
A(tony)
A(mike)
A(john)
L(tony, rain)
L(tony, snow)
(¬A(x), S(x), C(x))
(¬C(y), ¬L(y, rain))
(L(z, snow), ¬S(z))
(¬L(tony, u), ¬L(mike, u))
(L(tony, v), L(mike, v))
(¬A(w), ¬C(w), S(w))
R[2,11a](w=mike) = ¬C(mike),S(mike)
R[2,6a](x=mike) = S(mike),C(mike)
R[5,9a](u=snow) = ¬L(mike,snow)
R[12b,13a] = S(mike)
R[8a,14](z=mike) = ¬S(mike)
R[15,16] = []
```