**Use Case: Input problem** 

**ID** : st001

**Actor** : general user

Precondition : -

### Flow of Event

1.get problem

2.check syntax problem

3.return problem

**Postcondition** : value, value Find, cost

## **Use Case: Find Equation**

**ID** : fe001

**Actor** : program

**Precondition** : value,valueFind,valueOfEquation[]

### Flow of Event

1.get value,valueFind,valueOfEquation[]

2 call function callEquation(value,valueFind,valueOfEquation):

list a=value+valueFind

if a in valueOfEquation[]:

return valueOfEquation[valueOfEquation.index(a)]

else:

a=min( valueOfEquation - (value+valueFind) )

call function calEquation(value,valueFind,valueOfEquation):

3 return list index of equation

**Postcondition**: index of equation

## **Use Case: Find Equation**

**ID** : fe002

**Actor** : program

**Precondition**: value, value Find, index of equation, cost, equation

#### Flow of Event

```
1 get value, value Find, equation, index
```

2 call function changEquation(value,valueFind,equation[index]):

```
left=equation[:equation.index('=')-1]
```

right=equation[equation.index('=')+1:]

if valuefind in right

swap left, right

if value in left >1

return call function poly

return left+rigth+'=0'

give value of left is not valueFind swap to rigth

return left+'='+right

3 get result of changEquation function to equationChanged value

4 call function calValue(equationChanged,value,cost)

```
subE=gorup(equation)
```

if subE=1:return cost[cost.index(subEquation[0])

if subE=2:return operation.index(subE[0])calValue(subE[1])

else:return calValue(subE[0]) operation.index(subE[1]) calValue(subE[2])

5 get result of calValue to result of problem

**Postcondition**: equationChanged,result of problem

# **Use Case: Show solving problem**

**ID** : fn 001

**Actor** : general user

**Precondition**: index of equation, equation Changed, result of problem

## Flow of Event

1. get index of equation, equation Changed, result of problem

2.show index of equation, equation Changed, result of problem

Postcondition : -