SAT Solver

Goncharov Mark
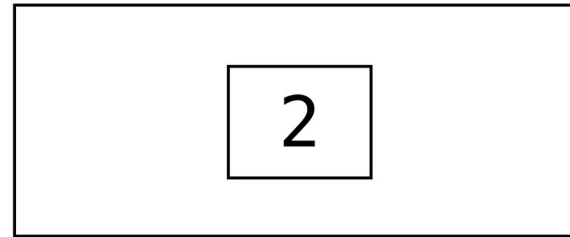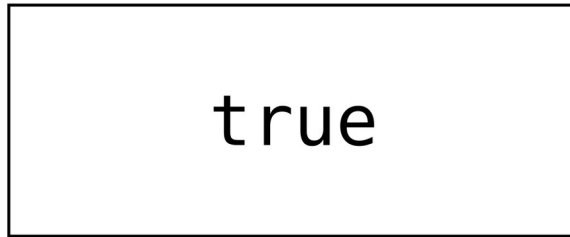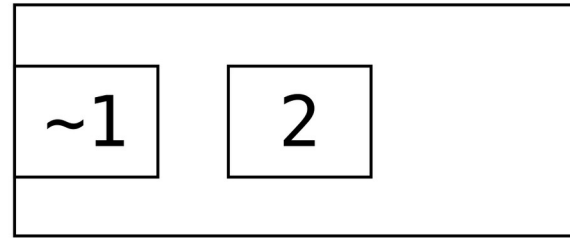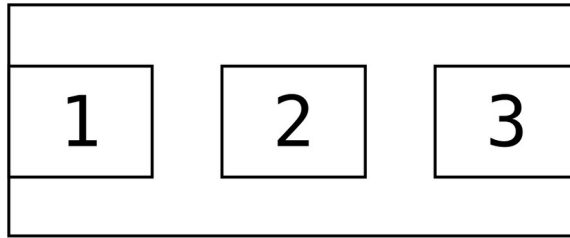Scherbakov Alexey
Kuznetsova Margarita

SAT Example
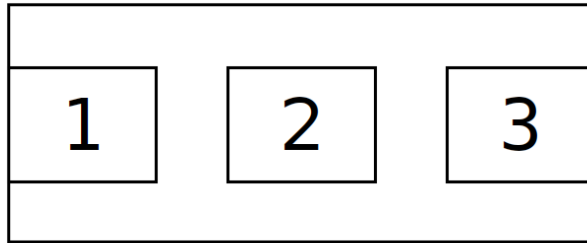
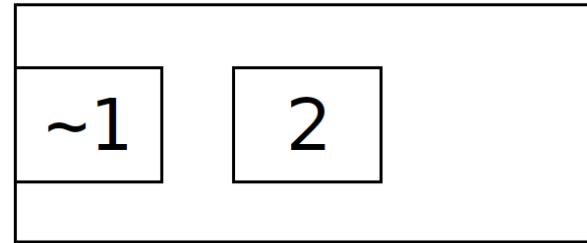| 1	2	3

~1	2

Set 1

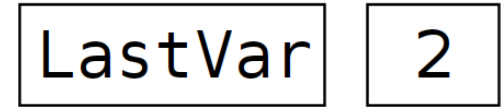| 1 | 2 | 3 |

| ~1 | 2 |

| true |

| 2 |
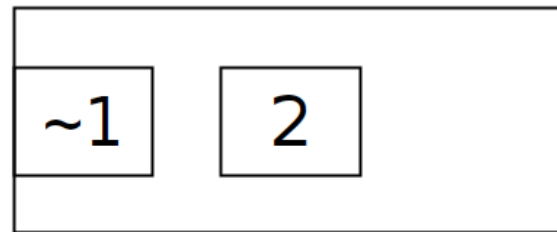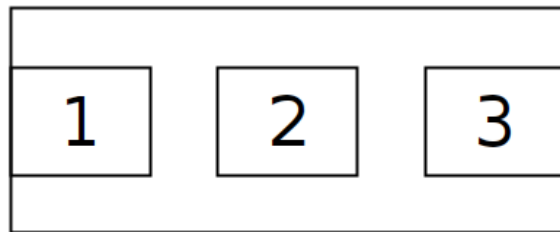
Set 2

| 1 | 2 | 3 |

| ~1 | 2 |

| true |

| true |

SAT 1th generation

1	2	3

~1	2

LastVar	3

true

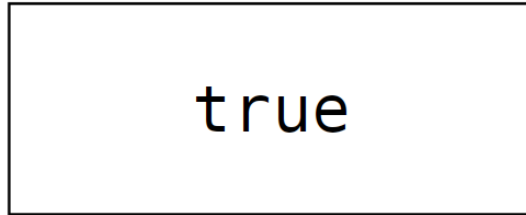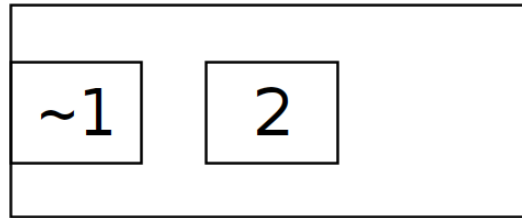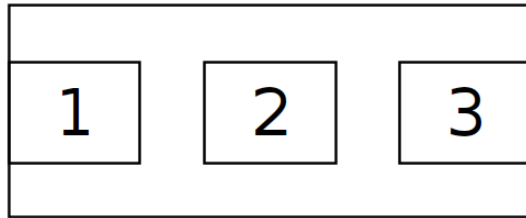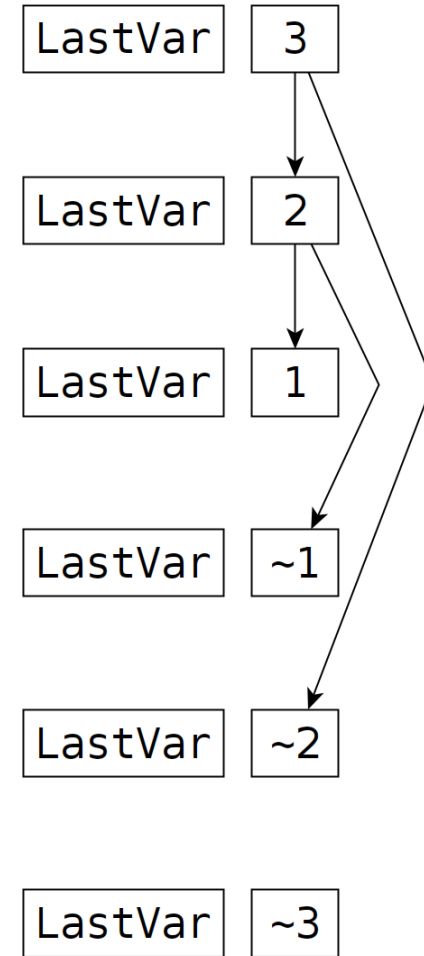| ~1	2

LastVar	2

true

true

true

SAT-1

~3	~1 2	LastVar 3
false	~1 2	LastVar 2
false	true	LastVar 1
false	true	LastVar ~1
false	~1	LastVar ~2
true	~1 2	LastVar ~3

SAT-2

~3	~1 2	LastVar 3
false	~1 2	LastVar ~3
true	~1 2	LastVar 2
true	true	true
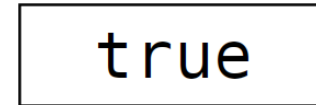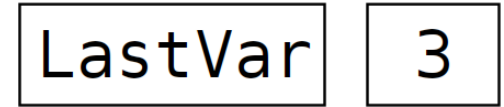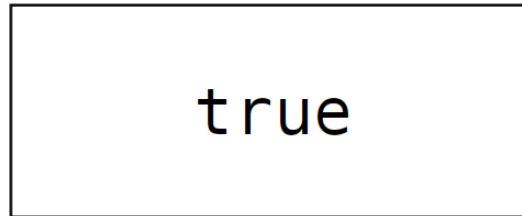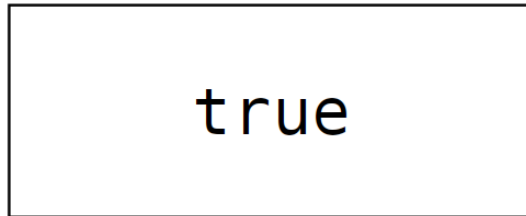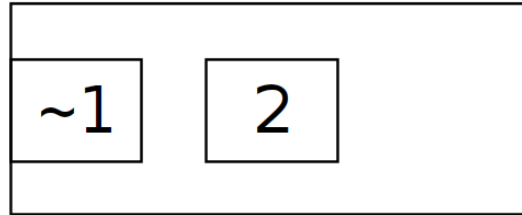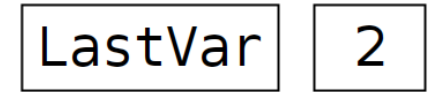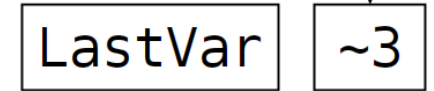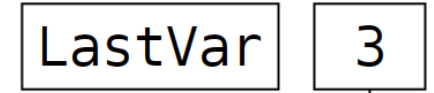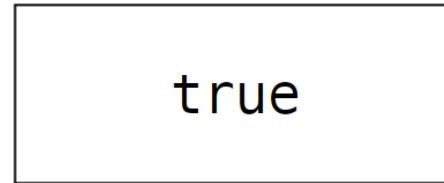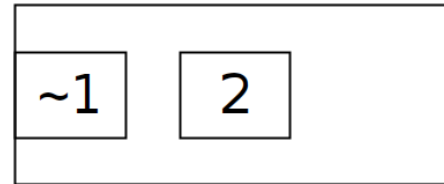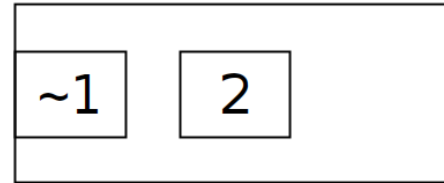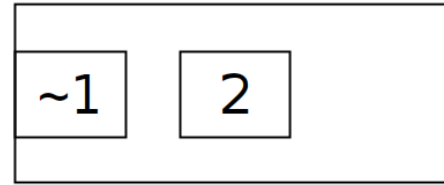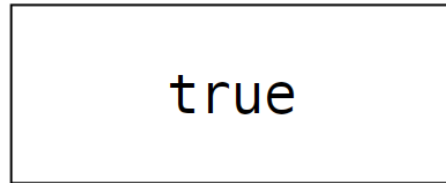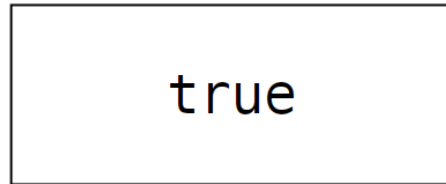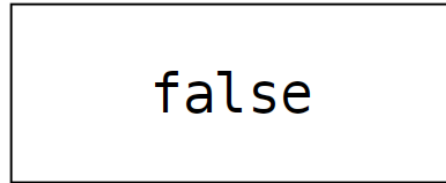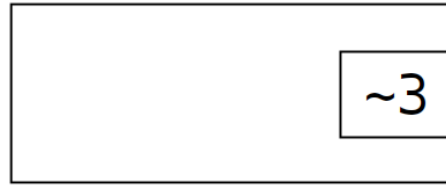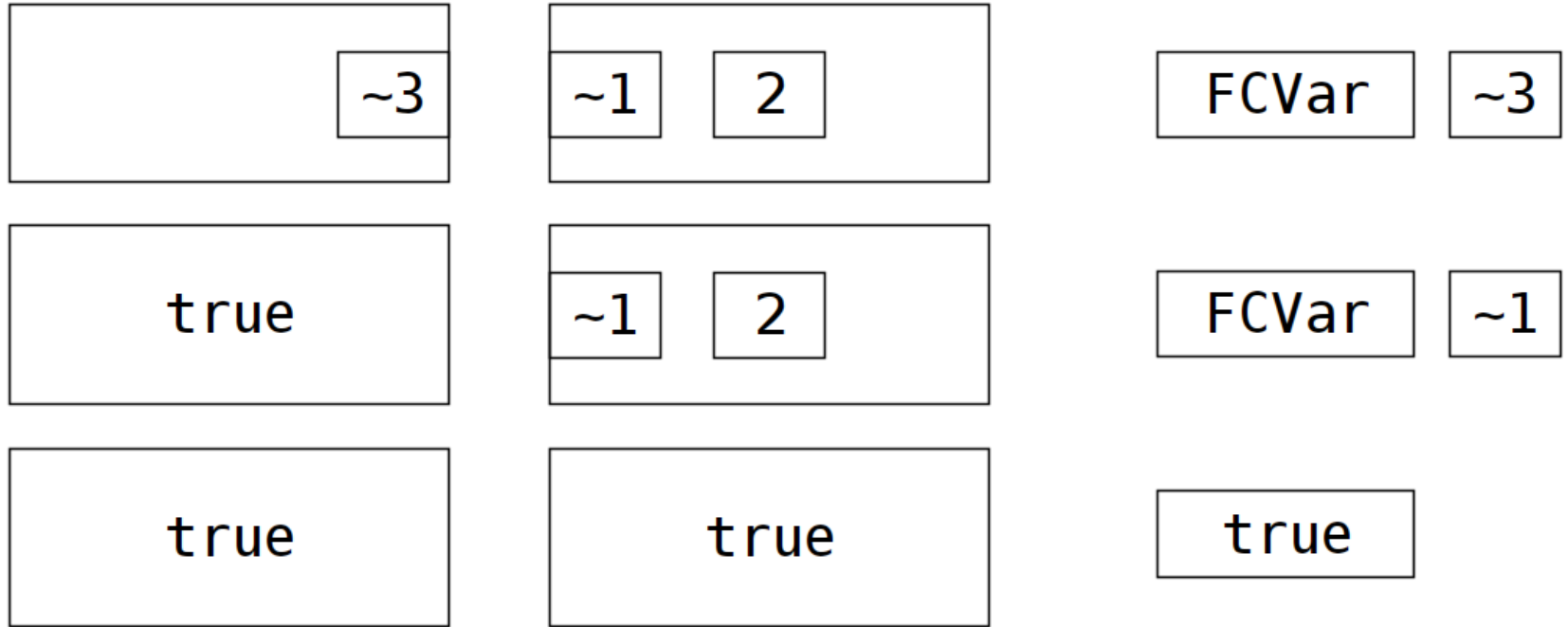
SAT-3

FCVar: first clause var

SAT-3 problem

1	2	3		~1			~2		FCVar	1
true				false			~2		FCVar	2
true				~1			false		FCVar	3
true				~1			~2		FCVar	3

SAT-4
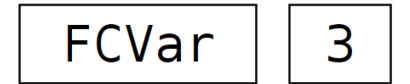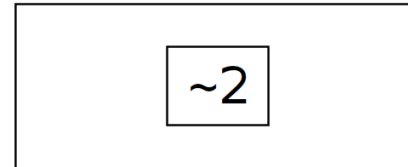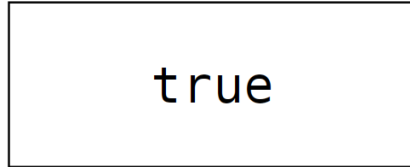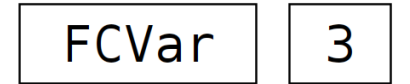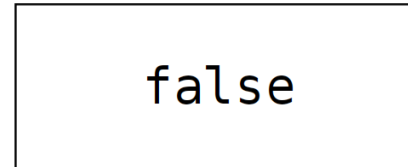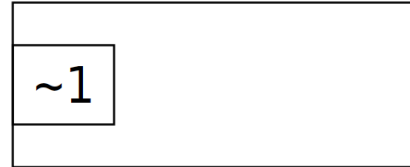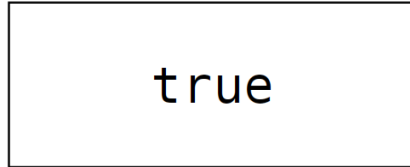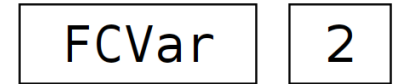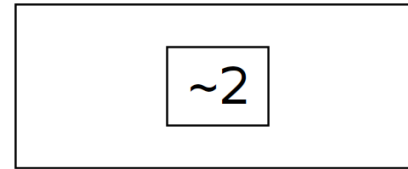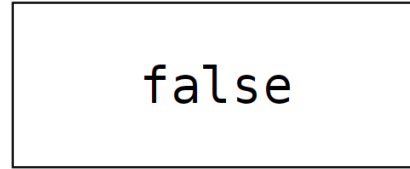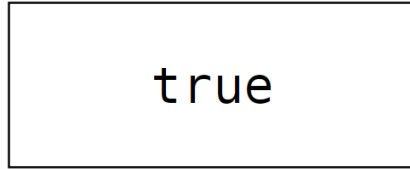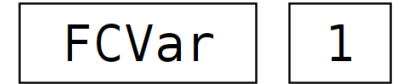
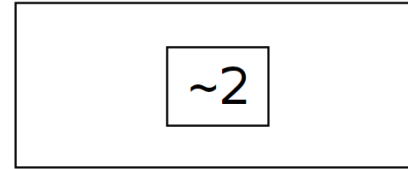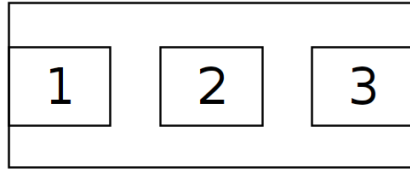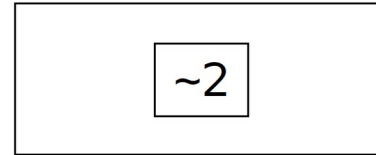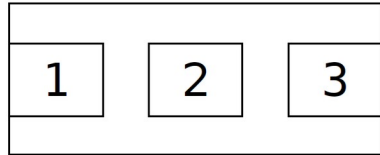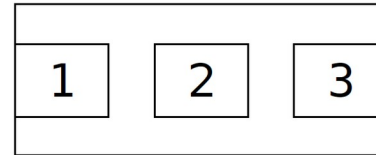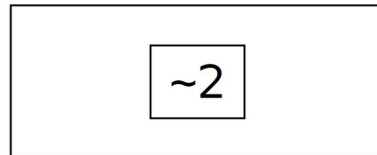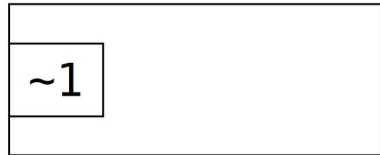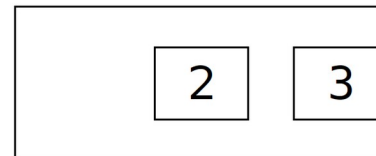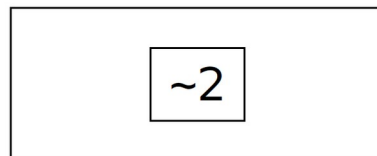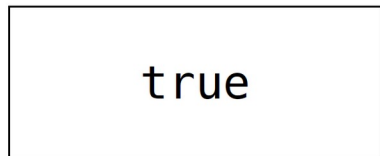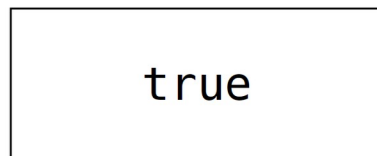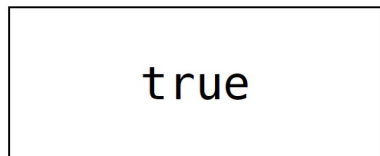|			
1 2 3	~1	~2	Analyze
~1	~2	1 2 3	FCVar ~1
true	~2	2 3	FCVar ~2
true	true	3	FCVar 3

SAT-5

| 1 | 2 | 3 |

| ~1 | 2 |

| ~2 |

	1	2	3
Weights	2	3	1
Positive	1	2	1

| MostImportant | 2 |

SAT-6 = SAT-4 + SAT-5

1	2

~1	2

~3
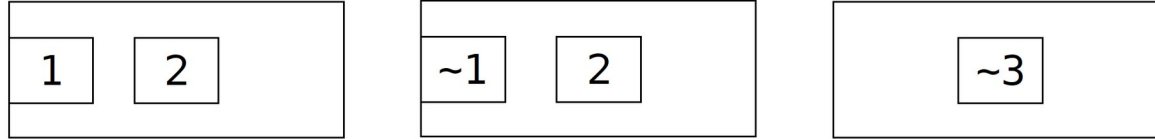
	1	2	3
Weights	1 + 1 << 5	1 + 1 << 5	1 << 10
Count	[1, 1]	[2, 0]	[0, 1]

MostImportant	~3