

# Vickrey-Clarke-Groves Auction (1/3)

- Cooperative Scenario
  - A team of agents for a task
- Cooperative v. s. Competitive
  - Utility v. s. Money
  - Truthful v. s. Lying
- Example
  - A number of victims ( $v_1, v_2, v_3, v_4$ )
  - A team of ambulances ( $a_1, a_2, a_3$ )
  - Tasks: assignments (each “a” a different “v”)

# Vickrey-Clarke-Groves Auction(2/3)

	V1	v2	v3	v4
a1	11	10	10	2
a2	10	9	8	3
a3	3	8	7	1

	V1	v2	v3	v4
a1	11	10	10	2
a2	10	9	8	3
a3	3	8	7	1

	V1	v2	v3	v4
a1	11	10	10	2
a2	10	9	8	3
a3	3	8	7	1

a1 takes v1 cause  
a problem for a2  
and a3

# Vickrey-Clarke-Groves Auction(3/3)

- What is the problem?
  - Harm
    - a2: 10-9
    - a3: 8-7
- Computing the costs
  - $11 - (10 - 9) - (8 - 7)$
  - $10 - (10 - 10) - (8 - 8)$

	V1	v2	v3	v4
a1	11	10	10	2
a2	10	9	8	3
a3	3	8	7	1