

# 「グラフと組み合わせ」課題 2 (解答例)

2016/4/21

## 1 グラフの記述

以下で記述されたグラフを幾何学的表現として表しなさい。

$$V = \{v_0, v_1, v_2, v_3, v_4, v_5, v_6, v_7\}$$

$$A = \{a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}, a_{12}\}$$

$$\partial^+ a_0 = v_0 \quad \partial^- a_0 = v_1 \quad \partial^+ a_1 = v_0 \quad \partial^- a_1 = v_4$$

$$\partial^+ a_2 = v_1 \quad \partial^- a_2 = v_2 \quad \partial^+ a_3 = v_1 \quad \partial^- a_3 = v_3$$

$$\partial^+ a_4 = v_2 \quad \partial^- a_4 = v_0 \quad \partial^+ a_5 = v_2 \quad \partial^- a_5 = v_5$$

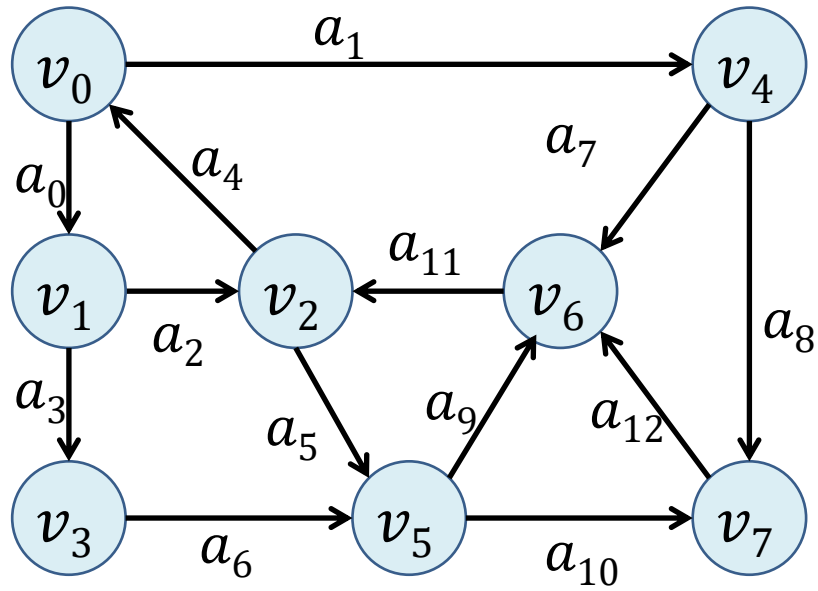
$$\partial^+ a_6 = v_3 \quad \partial^- a_6 = v_5 \quad \partial^+ a_7 = v_4 \quad \partial^- a_7 = v_6$$

$$\partial^+ a_8 = v_4 \quad \partial^- a_8 = v_7 \quad \partial^+ a_9 = v_5 \quad \partial^- a_9 = v_6$$

$$\partial^+ a_{10} = v_5 \quad \partial^- a_{10} = v_7 \quad \partial^+ a_{11} = v_6 \quad \partial^- a_{11} = v_2$$

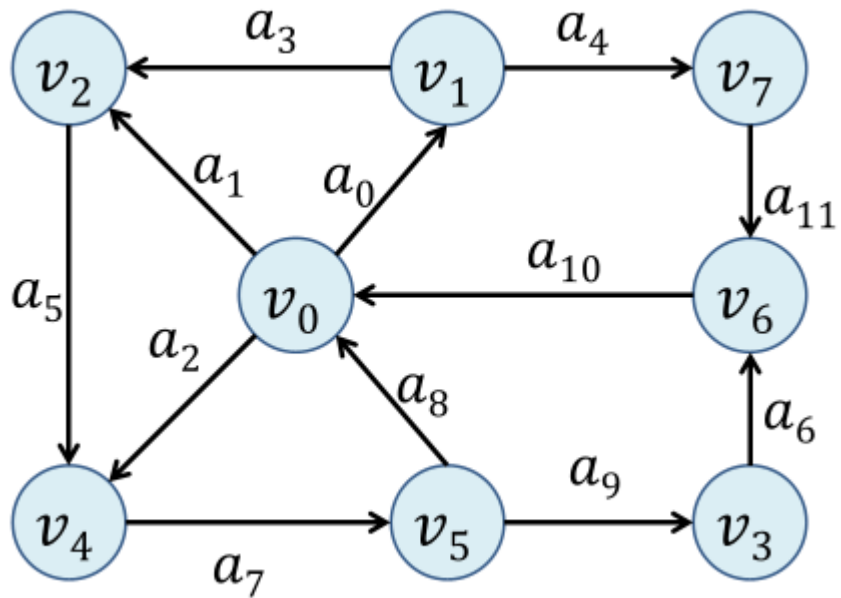
$$\partial^+ a_{12} = v_7 \quad \partial^- a_{12} = v_6$$

解答例



## 2 グラフの記述(幾何学的表現から記号表現へ)

次のグラフを記号で表現しなさい。



## 解答例

$$V = \{v_0, v_1, v_2, v_3, v_4, v_5, v_6, v_7\}$$

$$A = \{a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}, a_{12}\}$$

$$A = \{a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}\}$$

$$\partial^+ a_0 = v_0 \quad \partial^- a_0 = v_1 \quad \partial^+ a_1 = v_0 \quad \partial^- a_1 = v_2$$

$$\partial^+ a_2 = v_0 \quad \partial^- a_2 = v_4 \quad \partial^+ a_3 = v_1 \quad \partial^- a_3 = v_2$$

$$\partial^+ a_4 = v_1 \quad \partial^- a_4 = v_7 \quad \partial^+ a_5 = v_2 \quad \partial^- a_5 = v_4$$

$$\partial^+ a_6 = v_3 \quad \partial^- a_6 = v_6 \quad \partial^+ a_7 = v_4 \quad \partial^- a_7 = v_5$$

$$\partial^+ a_8 = v_5 \quad \partial^- a_8 = v_0 \quad \partial^+ a_9 = v_5 \quad \partial^- a_9 = v_3$$

$$\partial^+ a_{10} = v_6 \quad \partial^- a_{10} = v_0 \quad \partial^+ a_{11} = v_7 \quad \partial^- a_{11} = v_6$$