

- 减少无效顶点访问
- 消除重复集合运算
- 优化枚举节点剪枝

w:

$$L_w = N(v_0) = \{u_0, u_1, u_2, u_4, u_5, u_6, u_7\}$$

$$N_w(v_1) = L_w \cap N(v_1) = \{u_0, u_1, u_2\}$$

$$N_w(v_2) = L_w \cap N(v_2) = \{u_0, u_1, u_4, u_5, u_6, u_7\}$$

$$N_w(v_3) = L_w \cap N(v_3) = \{u_0, u_4, u_5, u_6\}$$

节点生成

| | | |
|-------|---------------|-----------------------------------|
| v_0 | \rightarrow | $u_0 u_1 u_2 u_4 u_5 u_6 u_7$ |
| v_1 | \rightarrow | $u_0 u_1 u_2 u_3$ |
| v_2 | \rightarrow | $u_0 u_1 u_3 u_4 u_5 u_6 u_7 u_8$ |
| v_3 | \rightarrow | $u_0 u_3 u_4 u_5 u_6 u_8 u_9$ |

计算子图

- 根节点
- 极大二分团
- 非极大二分团

x:

$$L_x = N_w(v_1) = \{u_0, u_1, u_2\}$$

$$N_x(v_2) = L_x \cap N_w(v_2) = \{u_0, u_1, u_2\} \cap \{u_0, u_1, u_3, u_4, u_5, u_6, u_7, u_8\} = \{u_0, u_1\}$$

$$N_x(v_3) = L_x \cap N_w(v_3) = \{u_0, u_1, u_2\} \cap \{u_0, u_3, u_4, u_5, u_6, u_8, u_9\} = \{u_0\}$$

节点生成

| | | |
|-------|---------------|-----------------------------------|
| v_0 | \rightarrow | $u_0 u_1 u_2 u_4 u_5 u_6 u_7$ |
| v_1 | \rightarrow | $u_0 u_1 u_2 u_3$ |
| v_2 | \rightarrow | $u_0 u_1 u_3 u_4 u_5 u_6 u_7 u_8$ |
| v_3 | \rightarrow | $u_0 u_3 u_4 u_5 u_6 u_8 u_9$ |

计算子图

y:

$$L_y = N_w(v_2) = \{u_0, u_1, u_4, u_5, u_6, u_7\}$$

$$N_y(v_3) = L_y \cap N_w(v_3) = \{u_0, u_1, u_4, u_5, u_6, u_7\} \cap \{u_0, u_3, u_4, u_5, u_6, u_8, u_9\} = \{u_0, u_4, u_5, u_6\}$$

节点生成

| | | |
|-------|---------------|-----------------------------------|
| v_0 | \rightarrow | $u_0 u_1 u_2 u_4 u_5 u_6 u_7$ |
| v_1 | \rightarrow | $u_0 u_1 u_2 u_3$ |
| v_2 | \rightarrow | $u_0 u_1 u_3 u_4 u_5 u_6 u_7 u_8$ |
| v_3 | \rightarrow | $u_0 u_3 u_4 u_5 u_6 u_8 u_9$ |

计算子图

z:

$$L_z = N_w(v_3) = \{u_0, u_4, u_5, u_6\}$$

节点生成

q:

$$L_q = N_x(v_2) = \{u_0, u_1\}$$

$$N_q(v_3) = L_q \cap N_x(v_3) = \{u_0, u_1\} \cap \{u_0, u_3, u_4, u_5, u_6, u_8, u_9\} = \{u_0\}$$

节点生成

| | | |
|-------|---------------|-----------------------------------|
| v_0 | \rightarrow | $u_0 u_1 u_2 u_4 u_5 u_6 u_7$ |
| v_1 | \rightarrow | $u_0 u_1 u_2 u_3$ |
| v_2 | \rightarrow | $u_0 u_1 u_3 u_4 u_5 u_6 u_7 u_8$ |
| v_3 | \rightarrow | $u_0 u_3 u_4 u_5 u_6 u_8 u_9$ |

计算子图

r:

$$L_r = N_x(v_3) = \{u_0\}$$

节点生成

t:

$$L_t = N_q(v_3) = \{u_0\}$$

节点生成

s:

$$L_s = N_y(v_3) = \{u_0, u_4, u_5, u_6\}$$

节点生成

