$$\textcircled{2} \Leftrightarrow b(u,\lambda) - \langle g,\lambda\rangle = 0$$

$$\| $$

- $\textcircled{1} \Leftrightarrow \frac{1}{2}a(u,u) - \langle f,u\rangle + 0 \le \frac{1}{2}a(v,v) - \langle f,v\rangle + [b(v,\lambda) - \langle g,\lambda\rangle] \quad \forall v \in X$

$$\Downarrow \quad V_g \subset X \qquad \cup$$

1) $$\frac{1}{2}a(u,u) - \langle f,u\rangle \le \frac{1}{2}a(u,v) - \langle f,v\rangle \quad \forall v \in V_g$$

$\textcircled{2} \Leftrightarrow u \in V_g$

$$\Updownarrow$$

$$\boxed{u \in V_g : \; J(u) \le J(v) \; \forall v \in V_g}$$

CMP (2P) $\Updownarrow$ (30) CVP

2) $$\frac{1}{2}a(v,v) - \langle f,v\rangle + [b(v,\lambda) - \langle g,\lambda\rangle] \xrightarrow[v\in X]{} \min$$

$$\Updownarrow$$

$$\frac{1}{2}a(v,v) - \langle f,v\rangle + b(v,\lambda) \xrightarrow[v\in X]{} \min$$

$$\Updownarrow \quad \text{Th. I. 2. 10} = \text{Th. 1.5 (NuPDE)}$$

$$a(u,v) = \langle f,v\rangle - b(v,\lambda) \quad \forall v \in X$$

$$\Updownarrow$$

$$\boxed{u \in X : \; a(u,v) + b(v,\lambda) = \langle f,v\rangle \; \forall v \in X}$$

- <u>Result:</u> SPP (32) $\Longrightarrow$ MVP (2)

$$\boxed{\begin{aligned} &(u,\lambda) \in X \times M : \\ &a(u,v) + b(v,\lambda) = \langle f,v\rangle \quad \forall v \in X \\ &b(u,\mu) \qquad\qquad = \langle g,\mu\rangle \quad \forall \mu \in \Delta \end{aligned}}$$