

RISOLVERE I SEGUENTI CALCOLI
VARIATIONALI TROVANDO LA SOLUZIONE
ALL'EQ. EULERO-LAGRANGE IMPONEN-
DO LE CONDIZIONI IN SEGUITO RIPORTATE

$$(1) \quad \delta \int_{-1}^0 (2xy - y'^2) dx = 0 \quad \begin{matrix} y(-1) = 1 \\ y(0) = 0 \end{matrix}$$

$$(2) \quad \delta \int_1^2 (y'^2 + 2yy' + y^2) dx = 0 \quad \begin{matrix} y(1) = 1 \\ y(2) = 0 \end{matrix}$$

$$(3) \quad \delta \int_0^1 \sqrt{y(1+y'^2)} dx = 0 \quad \begin{matrix} y(0) = \sqrt{2}/2 \\ y(1) = \sqrt{2}/2 \end{matrix}$$

$$(4) \quad \delta \int_0^1 y y'^2 dx = 0 \quad \begin{matrix} y(0) = 1 \\ y(1) = \sqrt[3]{4} \end{matrix}$$

$$(5) \quad \delta \int_0^\pi (4y \cos x + y'^2 - y^2) dx = 0 \quad \begin{matrix} y(0) = 0 \\ y(\pi) = 0 \end{matrix}$$

$$(6) \quad \delta \int_0^1 (y'^2 - y^2 - y) e^{2x} dx = 0 \quad \begin{matrix} y(0) = 0 \\ y(1) = e^{-1} \end{matrix}$$

$$(7) \quad \delta \int_{-1}^0 (y'^2 - 2xy) dx = 0 \quad \begin{matrix} y(-1) = 0 \\ y(0) = 2 \end{matrix}$$

$$(8) \quad \delta \int_1^e (xy'^2 + yy') dx = 0 \quad \begin{matrix} y(1) = 0 \\ y(e) = 1 \end{matrix}$$