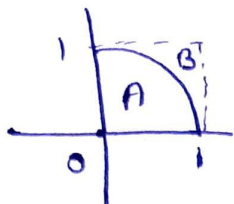


$$\int_0^1 \int_0^1 e^{\min\{x^2+y^2, 1\}} dx dy$$

$$x^2+y^2=1$$



region A - $x^2+y^2 \leq 1$

region B - $x^2+y^2 > 1$

$$\Rightarrow \int_0^1 \int_0^1 e^{\min\{x^2+y^2, 1\}} dx dy = \iint_A e^{x^2+y^2} dx dy + \iint_B e^1 dx dy$$

$$= \frac{\pi}{2} \int_0^1 \int_0^1 e^{r^2} \times r dr d\theta + \iint e dx dy$$

$\theta=0 \quad \theta=\frac{\pi}{2}$

$$\Rightarrow \frac{\pi}{2} \times \frac{1}{2} [e^{r^2}]_0^1 + e \times \text{area of quadrant}$$

$$\Rightarrow \frac{\pi}{4} [e-1] + e \times \frac{\pi \times (1)^2}{4} \Rightarrow \frac{\pi}{4} [e-1] + \frac{\pi e}{4}$$

$$\Rightarrow \frac{2\pi e}{4} - \frac{\pi}{4}$$

$$\Rightarrow \boxed{\frac{\pi e}{2} - \frac{\pi}{4}}$$