#P4

$u'' = e^{\sin(x)}$, $u'(0) = 0$, $u'(1) = \alpha$.

integrate:

$$u' = \int_0^x e^{\sin t}\, dt + C, \text{ since } u'(0) = 0,\ C = 0.$$

$$\alpha = u'(1) = \int_0^1 e^{\sin t}\, dt$$

integrate again.

$$u = \int_0^x \int_0^s e^{\sin t}\, dt\, ds + C.$$