

# COMPUTATIONAL PRACTICUM assignment

## Differential Equations

Artur Akhmetshin

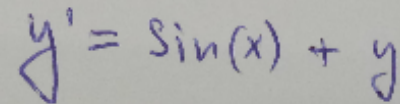
Group: BS17-05

$$y' = \sin(x) + y$$

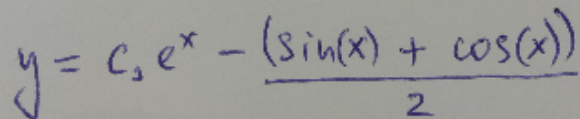
### Exact solution of IVP(Initial Value Problem)

there  $x_0 = 0$  and  $y_0 = 1$

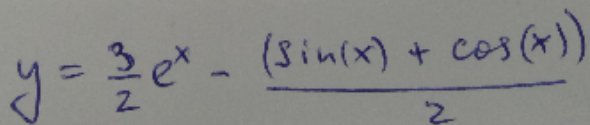
Given Differential Equation:


$$y' = \sin(x) + y$$

Solution of DE:


$$y = C_1 e^x - \frac{(\sin(x) + \cos(x))}{2}$$

Solution of IVP:


$$y = \frac{3}{2} e^x - \frac{(\sin(x) + \cos(x))}{2}$$

There isn't any point of discontinuity in solution of given differential equation.