

**GD**  $\theta^{(0)}$

$$\textcircled{1} \quad \vec{g}^{(t)} = -\nabla_{\theta} L(\theta^{(t)}, \mathcal{F})$$

$$\textcircled{2} \quad \theta^{(t+1)} = \theta^{(t)} - \eta \vec{g}^{(t)}$$

$$\textcircled{3} \quad c? \Rightarrow \text{stop}$$

$$\mathcal{F} = \{x, y\}$$

# SGD

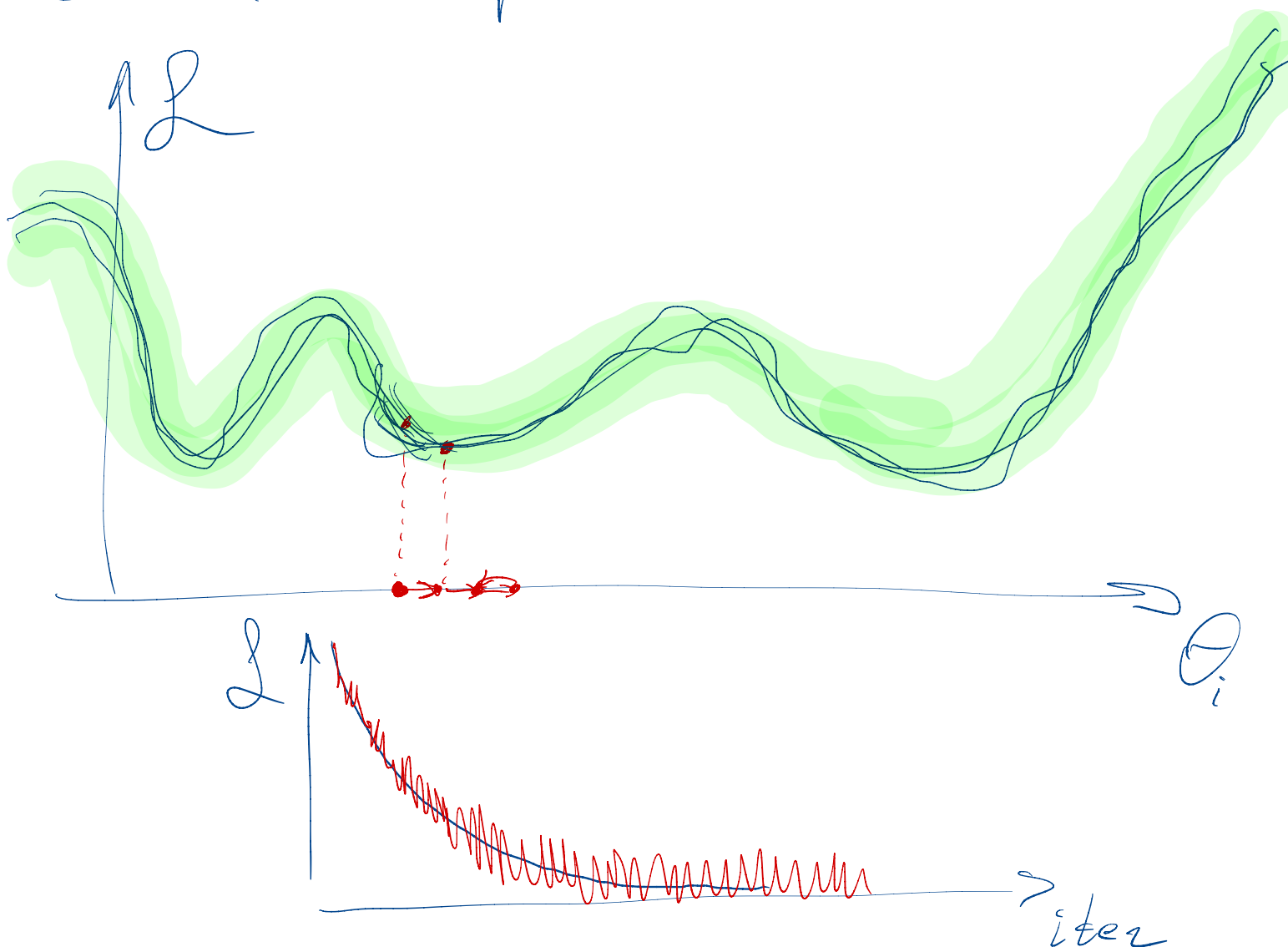
①  $\Theta^{(0)}, \eta, |B|, C$

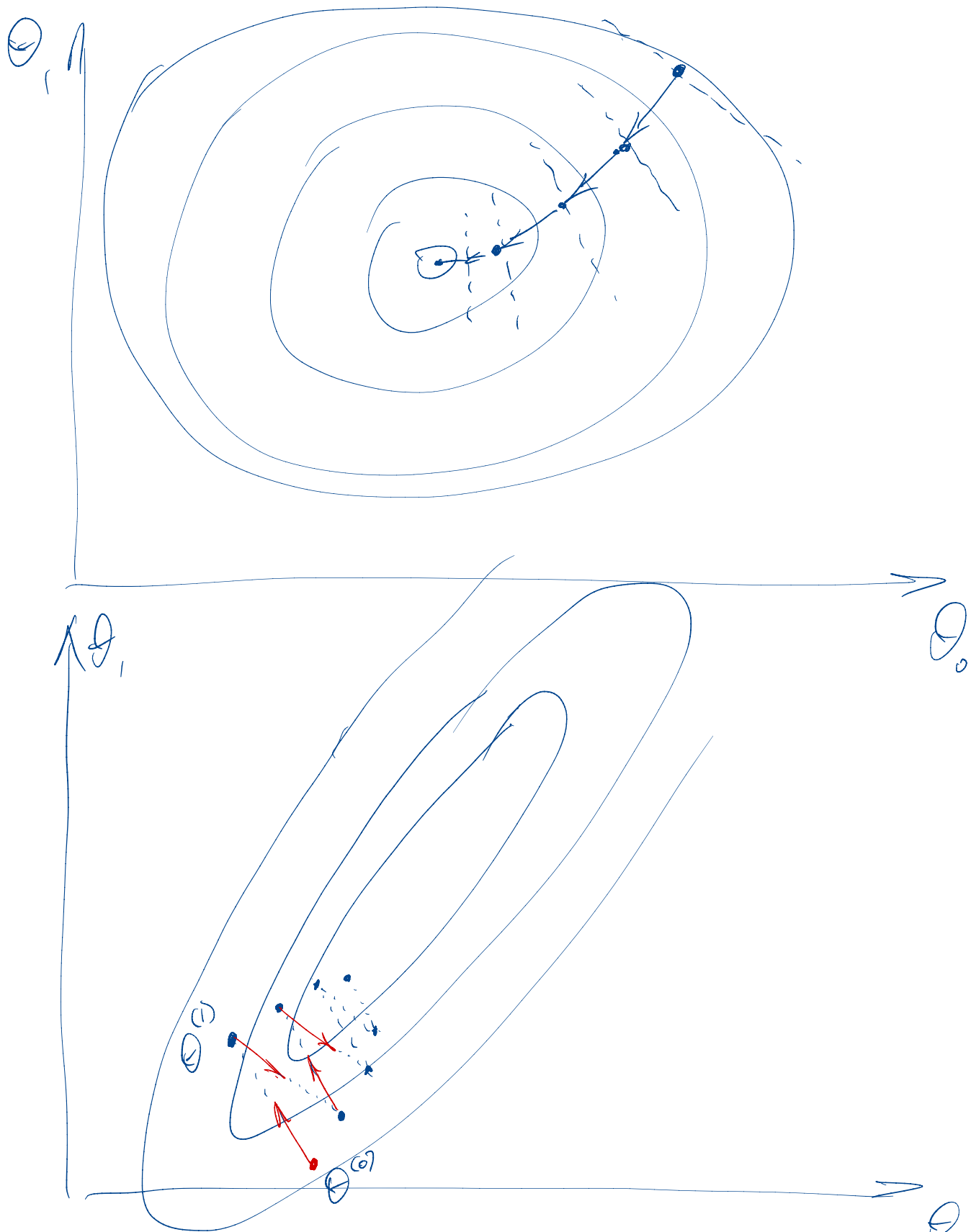
①  $\vec{g}^{(t)} = \vec{\nabla}_{\Theta} \mathcal{L}(B, \Theta^{(t)})$

$$B = \{x, y\}^{[B]}$$

②  $\Theta^{(t+1)} = \Theta^{(t)} - \eta \vec{g}^{(t)}$

③  $C? \Rightarrow \text{stop}$





$$\vec{g} = -\nabla_{\theta} \mathcal{L}(\theta^{(t)}, B) \quad \theta^{(t+1)} = \theta^{(t)} - \eta \vec{g}^{(t)}$$

# Импульсный метод Моментум

$$\vec{g} = \nabla_{\theta} \mathcal{L}(\theta^{(t)}, B)$$

$$\vec{m}^{(t)} = \beta \vec{m}^{(t-1)} + (1-\beta) \vec{g}^{(t)}$$

$$\theta^{(t+1)} = \theta^{(t)} - \eta \vec{m}^{(t)}$$

