5.2 The `torch.optim` module

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torch.optim is a module in PyTorch that provides a variety of optimization algorithms used to update the parameters of your model during training.

It includes common optimizers like ***Stochastic Gradient Descent (SGD)***, ***Adam***, ***RMSprop***, and more.

It handles weight updates efficiently, including additional features like ***learning rate scheduling*** and ***weight decay (regularization)***.

The *model.parameters()* method in PyTorch retrieves ***an iterator over all the trainable parameters (weights and biases)*** in a model.
These parameters are instances of *torch.nn.Parameter* and include:

- **Weights:** The weight matrices of layers like *nn.Linear*, *nn.Conv2d*, etc.
- **Biases:** The bias terms of layers (if they exist).

The optimizer uses these parameters to compute gradients and update them during training.