

target learning approaches

- ① parametric:  $\hat{f}_\theta = \text{function}(\theta)$
- ② nonparametric:  $\hat{f}_\theta = \text{function}(\theta, \phi)$
- ③ semi-parametric:  $\hat{f}_\theta = \text{function}(\theta, \phi)$
- ④ nonparametric:  $\hat{f}_\theta = \text{function}(\theta)$
- ⑤ nonparametric:  $\hat{f}_\theta = \text{function}(\theta)$

Learning rule:  $\hat{f}_\theta = \text{function}$

- ① gradient descent:  $\hat{f}_\theta = \text{function}$
- ② gradient descent:  $\hat{f}_\theta = \text{function}$
- ③ gradient descent:  $\hat{f}_\theta = \text{function}$
- ④ gradient descent:  $\hat{f}_\theta = \text{function}$
- ⑤ gradient descent:  $\hat{f}_\theta = \text{function}$

governed by  $\mathcal{O}_q + \mathcal{I}_{q+1}$ . The  $\mathcal{I}_{q+1}$  elements  
are those elements in  $\mathcal{O}_q$  which are not  
elements of  $\mathcal{O}_q$  themselves. This higher struc-  
ture is compatible with the original structure.  
The  $\mathcal{O}_q$  are called  $q$ -ary  $n$ -tuples.

This image shows a single page from a document. The text is extremely faded and blurry, making it difficult to read accurately. At the top, there is a decorative horizontal border with a repeating pattern. Below this, the page contains several lines of text that are too faded to be legible. The overall appearance is that of an old, low-quality scan.

The image shows a whiteboard with handwritten mathematical notes. At the top left, there is a diagram of a tree with 7 nodes and 6 edges. Next to it, the text reads "number of edges = number of nodes - 1". Below this, another line of text says "number of edges = number of nodes - 1". To the right of these lines, there is a large, faint watermark-like text that appears to read "www.mathsrevision.com". At the bottom of the whiteboard, there is a large, dark, semi-circular shape.