

A diagram of a block matrix. It consists of a large square frame. Inside, there are several smaller squares. The top-left square is labeled  $A_1$ . The square immediately below and to the right of  $A_1$  is labeled  $A_2$  and is shaded gray. To the right of  $A_2$ , there are three dots arranged diagonally, indicating a continuation of the pattern. In the bottom-left area, there is a large '0' representing a zero block. In the bottom-right corner, there is a square labeled  $A_n$ .

$$A_1$$
$$A_2$$

...

$$0$$
$$A_n$$