

Task:

In how many ways can a student select any number of books from the library if there are 7 books of his interest?

Solution:

Student can select any of 7 books or no, so we two states for each book. Hence all possible ways are 2^7 (considering the possibility that the student did not take a single book).

$$N = 2^7 = 128$$

Answer: 128 ways.