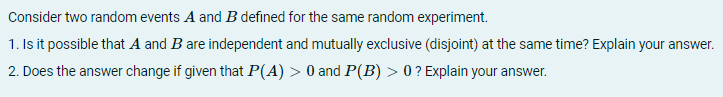
# Task 1



1. If and are independent events, then by definition . But if A and B are mutually exclusive, then , hence . This implies that and can be independent and mutually exclusive only if or in other words if or (or both).

2. On the other hand, if and are independent events and , , then . This implies, that isn’t an empty set, thus events and can happen together and are not mutually exclusive.