

# Assignment 6

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**Question :** Show that if  $S$  consists of a countable number of elements  $\zeta$  and each subset  $(\zeta)$  is an event, then all subsets of  $S$  are events.

**Solution :**

Since  $S$  contains countable number of elements ,therefore Any subset of  $S$  will contain a finite number of elements. Hence, it(each subset) can be written as a countable union of elementary events or sample points . Hence it is proved that all subsets of  $S$  will be an event.