PROBLEM SET - 2

ECO 104 (SECTION 4)
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PROBLEM SET DUE : 2ND NOV, 2022

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§. Theory and Methods

1. If P is a probability function and A and B are any events in $\mathcal{F}$, then show that

   (a) $P(A^{\mathrm{c}} \cap B) = P(B) - P(A \cap B)$;

   (b) $P(A \cup B) = P(A) + P(B) - P(A \cap B)$;

   (c) If $A \subset B$, then $P(A) \leq P(B)$.

2. From Anderson et al. (2020)

   (a) Chapter 4

      - 30 and 31 (p. 204)
      - 39 and 40 (p. 211)

§. Applied Problems

3. From Anderson et al. (2020)

   (a) Chapter 4

      - 25, 27 and 29 (p. 198)
      - 32 and 33 (p. 204)
      - 37 and 38 (pp. 206)
      - 43, 44, 45 (p. 212)

   Remarks: Many problems are taken from Anderson et al. (2020). If possible you should do more problems from there.

References:
Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran, J. J., Fry, M. J. and Ohlmann, J. W. (2020), *Statistics for Business & Economics*, 14th edn, Cengage, Boston, MA.