

MS115 Mathematics for Enterprise Computing

Tutorial Sheet 10

1. 60% of the students in a class are male and 40% are female. Of the male students, 55% can program in at least one computer language, while the proportion of the female students that can program is 50%. Suppose a student is randomly selected from the class.
 - (i) What is the probability that the selected student is male?
 - (ii) What is the probability that the selected student can program, given that they are male?
 - (iii) What is the probability that the selected student cannot program, given that they are male?
 - (iv) What is the probability that the selected student is female and can program?
 - (v) What is the probability that the selected student can program?
 - (vi) What is the probability that the person selected student is male, given that they can program?
 - (vii) What is the probability that the person selected student is female, given that they can program?

2. In a widget factory 30%, 50% and 20% of production is done on machines 1, 2 and 3 respectively. It is known that 4%, 2% and 3% of the respective output of these machines is defective. What is the probability that a randomly selected widget is defective?