Q.1 Breast cancer is a leading cause of death for women. Mammograms are the most prevalent method of detecting breast cancer. Computer-Aided Design (CAD) Software has been developed using a mammographic image for speedy diagnosis. The software correctly detected more than 98% of the cases. In 5% of instances, it gives false positive results. According to the National Cancer Institute, breast cancer affects 7 % of women in the U.S. on average.   12

(i) Find the probability that no cancer is present given that test is positive
(ii) Find the probability that cancer is present given that test is positive.
(iii) Find the probability that cancer is present given that test is negative.
(iv) Find the probability that no cancer is present given that test is negative.

Answer:

Q.2 A fair coin is tossed ten times. Find out the probability that- 8
    (i) Exactly 9 successive tosses landing on tail.
    (ii) Given the first five tosses landing on head, the sixth toss lands on tail.

Answer: