Sampling Data

i. **Explain what is meant by:**

  - a random sample

  - a stratified sample

  - a bias sample

ii. **Michelle want to find out how often people go to the theatre. She gives a questionaire to all the women leaving a particular theatre.**
Her sample is bias. Give two possible reasons why.

iii. **The table gives information about the numbers of students in the two years of a college course.**

	Male	Female
First Year	398	603
Second Year	258	196

  Andy wants to interview some of these students. He takes a random sample of 50 students stratified by year and by gender. Work out the number of students in the sample who are male and in the first year.

iv. **There are three age groups in a competition. The table shows the number of competitors in each age group.**

16-18 years	19-24 years	25+ years
121	249	201

  James wants to do a survey of the competitors. He uses a stratified sample of exactly 50 competitors according to age group.
Work out the number of competitors in each age group that should be sampled.

v. **9 million live in London. A company carries out a survey of Londoners, asking about whether they own a bicycle.**
The survey uses a random sample of 2000 Londoners. 790 of the Londoners surveyed owned a bicycle.
Estimate the number of people in London who do not own a bicycle.