Project Work

1. Ask at least 20 people which of the fruit either apples or orange they like. Denote the set of people who like apple by A and the set of people who like orange by O. According to their responses, write the set of people who like apple, who like orange, who like both fruits, who like apple only, who like orange only, who don't like apple and orange by listing method. From the obtained information construct the following sets. Also present them in a separate Venn diagram:

   (a) A (b) O (c) $A \cup O$ (d) $\overline{A}$

   (e) $A - O$ (f) $O - A$ (g) $(O - A) \cup (A - O)$

2. Ask all the students in your class which of football, cricket and basketball they like to play. Denote the set of students who like to play football by F, cricket by C and basketball by B. According to their responses, find the set of students who like to play football, who like to play cricket, who like to play basketball, who like to play any two sports, who like to play all three sports, who like to play only one sport and who do not like to play any of them by listing method. Find the cardinality of the following sets and also present them by drawing separate Venn diagram:

   (a) $n(F)$ (b) $n(C)$ (c) $n(B)$ (d) $n(F \cap B)$

   (e) $n(B \cap C)$ (f) $n(F \cap C \cap B)$ (g) $n(F \cup C \cup B)$ (h) $n(\overline{F \cup B})$

   (i) $n(\overline{B \cup C})$ (j) $n(\overline{C})$ (k) $n_o(F)$ (l) $n_o(F \cap C)$

   (m) $n(F - B)$