

**[tex61] Information of sequenced messages**

In which months of the year do Ellen, Nancy, and Susan have their birthdays? Three messages  $X, Y, Z$  about their birthdays are received by persons  $a, b, c$ :

Person  $a$  receives the messages in the sequence  $X, Y, Z$ .

Person  $b$  receives the messages in the sequence  $Z, X, Y$ .

Person  $c$  receives the messages in the sequence  $Y, Z, X$ .

The three messages are the following:

$X$ : Nancy's birthday is in April.

$Y$ : Ellen's birthday is in a later month than Nancy's birthday.

$Z$ : Susan's birthday is in the same month as Ellen's birthday.

Find the numerical value of the information contained in the messages  $X, Y, Z$  as received by each person  $a, b, c$ .

**Solution:**