```
## Warning in if (sort(zs) == sort(unique(zs)) & sum(zs > 0) > 1) {: the
## condition has length > 1 and only the first element will be used
```

Question

A farm produces 4 types of fruit: A, B, C, and D. The fruits' masses follow normal distributions, with parameters dependent on the type of fruit.

Type of fruit	Mean mass (g)	Standard deviation of mass (g)
A	73	7
B	110	11
C	69	12
D	88	8

One specimen of each type is weighed. The results are shown below.

Type of fruit	Mass of specimen (g)
A	66.35
B	111.5
C	73.8
D	96.8

Answerlist

- Calculate a z score for each specimen.
- Which specimen is the most unusually large (relative to others of its type)?
- Which specimen is the most unusually small (relative to others of its type)?

Solution

Answerlist

- We calculate the z-scores.

Type of fruit	formula	z-score
A	$z = \frac{66.35-73}{7}$	-0.95
B	$z = \frac{111.5-110}{11}$	0.14
C	$z = \frac{73.8-69}{12}$	0.4
D	$z = \frac{96.8-88}{8}$	1.1

- The largest z-score corresponds to the most unusually large, so the specimen of type D is the most unusually large.
- The smallest z-score corresponds to the most unusually small, so the specimen of type A is the most unusually large.

Meta-information

extype: string exsolution: yo exname: UZ extol: 0.01