**Test scores of Fifteen students in Test 1 and Test 2 are presented below.**

|  |  |  |
| --- | --- | --- |
| S.No. | Test-1 | Test-2 |
| 1 | 56 | 86 |
| 2 | 78 | 67 |
| 3 | 87 | 78 |
| 4 | 89 | 89 |
| 5 | 95 | 87 |
| 6 | 98 | 67 |
| 7 | NA | 94 |
| 8 | 78 | 78 |
| 9 | 87 | 81 |
| 10 | 98 | 83 |
| 11 | 54 | 78 |
| 12 | 89 | NA |
| 13 | 78 | 93 |
| 14 | 98 | 98 |
| 15 | 97 | 100 |

* How many students have their test 1 score greater than 80?
* How many students have their test 2 score greater than 85?
* Did all fifteen students take both tests?
* How many students did better in the second test than the first test?
* How many students have the same score in the first and second test?

> test1=c(56,78,87,89,95,98, NA,78,87,98,54,89,78,98,97)

> test2=c(86,67,78,89,87,67,94,78,81,83,78, NA,93,98,100)

a) How many students have their test 1 score greater than 80?

> which(test1>80)

[1] 3 4 5 6 9 10 12 14 15

> sum(which(test1>80))

[1] 78

> length(which(test1>80))

[1] 9

b) How many students have their test 2 score greater than 85 ?

> which(test2>85)

[1] 1 4 5 7 13 14 15

> length(which(test2>85))

[1] 7

c) Did all fifteen students take both tests?

#code

> any(is.na(test1))

[1] TRUE

> any(is.na(test2))

[1] TRUE

#NA available so the answer is "NO"

d) How many students did better in the second test than the first test?

#code

> which(test2>test1)

[1] 1 11 13 15

> length(which(test2>test1))

[1] 4

e) How many students have the same score in the first and second test?

#code

> which(test1==test2)

[1] 4 8 14

> length(which(test1==test2))

[1] 3