

1. Please mention true or false for the below statements:

a) Prescriptive Analytics is used to predict the future outcomes --- False

b) Base R packages are installed automatically --- False

2. What is Recycling of elements in a vector?

When applying an operation to two vectors that requires them to be the same length, R automatically recycles, or repeats, elements of the shorter one, until it is long enough to match the longer Vector.

3. Give an example of recycling of elements.

```
> c(2,5,8) - c(1,2,6,8,9)
[1] 1 3 2 -6 -4
warning message:
In c(2, 5, 8) - c(1, 2, 6, 8, 9) :
  longer object length is not a multiple of shorter object length
```

```
>c(2,5,8,2,5) - c(1,2,6,8,9)
```

In the above example we have 2 vectors `c(2,5,8)` & `c(1,2,6,8,9)` first vector has 3 elements lesser than the second one, hence when we subtract the two vectors we get the error mgr. R will subtract those Vectors by Recycling or repeating the elements in shorter one, until it is long enough to match the longer one as in the above screenshot. R has taken last two elements in first vector (2,5) by repeating the elements.