

# R Program to Sample from a Population



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In this example, you will learn to take sample from a population using `sample()` function.

To understand this example, you should have the knowledge of following R programming topics:

- R Variables and Constants
- R Functions

We generally require to sample data from a large population.

R has a function called `sample()` to do the same. We need to provide the population and the size we wish to sample.

Additionally, we can specify if we want to do sampling with replacement. By default it is done without replacement.

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## Example: Sample From a Population

Sample 2 items from  $x$

```
> x
[1] 1 3 5 7 9 11 13 15 17
> # sample 2 items from x
> sample(x, 2)
[1] 13 9
```

If we don't provide the size to sample, it defaults to the length of the population. This can be used to scramble  $x$ .

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More examples to sample from a population.

```
> # sample with replacement
> sample(x, replace = TRUE)
[1] 15 17 13 9 5 15 11 15 1
> # if we simply pass in a positive number n, it will sample
> # from 1:n without replacement
> sample(10)
[1] 2 4 7 9 1 3 10 5 8 6
```

An example to simulate a coin toss for 10 times.

```
> sample(c("H","T"),10, replace = TRUE)
[1] "H" "H" "H" "T" "H" "T" "H" "H" "H" "T"
```