How can a repeat loop be written in R? Can you provide three examples?

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A repeat loop in R is a control structure that allows for the repetition of a block of code a specified number of times. It is written using the "repeat" keyword, followed by curly braces containing the code to be repeated. The number of repetitions can be controlled using a counter variable within the loop, which can be incremented or decremented.

Example 1: Repeat loop with a counter variable
```
counter 5) {
break
}
}
```
Output:
```
"Iteration: 1"
"Iteration: 2"
"Iteration: 3"
"Iteration: 4"
"Iteration: 5"
```

Example 2: Repeat loop with a conditional statement
```
repeat {
x
```


Write a Repeat Loop in R (3 Examples)

A repeat-loop in R can be used to repeatedly perform some action until a stop condition is reached.

You can use the following basic syntax to write a repeat-loop in R:

repeat{

```
#do something
if(some condition){
break
}
}
```

The following examples show how to use a repeat-loop in different scenarios.

Example 1: Print Values Until Specific Number is Reached

The following code shows how to use a repeat-loop to print values starting at 1 until 10 is reached:

```
#define starting value
x <- 0

#perform repeat-loop
repeat{
x <- x+1
print(x)

if(x >= 10){
break
}
```

}

1
2
3
4
5
6
7
8
9
10

Here's how this code worked:

We defined the starting value as x = 0.We told R to increment x by 1, then print x.We told R to break the repeat-loop once x had reached a value of 10 or greater.

Example 2: Add Values to Vector Until Specific Number is Reached

The following code shows how to use a repeat-loop to add values to a vector until a specific number is reached:

#define empty vector and starting value

```
data <- c()
x <- 0

#perform repeat-loop
repeat{
x <- x+1
data <- x
print(data)

if(x >= 5){
break
}
}

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```


Here's how this code worked:

We created an empty vector and defined the starting value as x = 0.We told R to increment x by 1, then insert the value of x into the xth position of the vector.We told

R to break the repeat-loop once x had reached a value of 5 or greater.

Example 3: Modify Values in Data Frame Until Specific Number is Reached

The following code shows how to use a repeat-loop to modify the values in an existing data frame until a specific number is reached:

```
#define data frame and starting value
df <- data.frame(A=c(6, 7, 2, 8),
B=c(2, 4, 5, 5))
x <- 0

#perform repeat-loop
repeat{
x <- x+1
df$A <- x
df$B <- x * 2

if(x >= nrow(df)){
break
}
}

#view resulting data frame
```

df

A B
1 1 2
2 2 4
3 3 6
4 4 8

We created an empty data frame and defined the starting value as x = 0.We told R to increment x by 1, then insert the value of x into the xth position of column A and insert the value of x*2 into the xth position of column B.We told R to break the repeat-loop once x had reached a value equal to or greater than the number of rows in the data frame.

Additional Resources

The following tutorials explain how to perform other common tasks in R: