

# How can a new data frame be created from an existing data frame using the R programming language?

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## RECOMMENDED CITATION

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In the R programming language, a new data frame can be created from an existing data frame by using the "data.frame" function. This function allows for the creation of a new data frame by combining columns or variables from the existing data frame, or by adding new columns with specified values. Additionally, the "subset" function can be used to create a new data frame with selected rows or observations from the existing data frame. Overall, the R programming language offers various methods for creating a new data frame from an existing one, providing flexibility and convenience for data manipulation and analysis tasks.

## **R: Create New Data Frame from Existing Data Frame**

**There are two common ways to create a new data frame from an existing data frame in R:**

### **Method 1: Select Column Names from Existing Data Frame**

```
new_df <- df
```

### **Method 2: Select & Rename Column Names from Existing Data Frame**

```
new_df <- data.frame('new_var1' = df$var1,  
'new_var2' = df$var2,  
'new_var3' = df$var3)
```

**The following examples show how to use each method with the following data frame in R:**

```
#create data frame
```

```
df <- data.frame(team=c('A', 'A', 'A', 'B', 'B', 'B'),  
points=c(19, 14, 14, 29, 25, 30),  
assists=c(4, 5, 5, 4, 12, 10),  
rebounds=c(9, 7, 7, 6, 10, 11))
```

```
#view data frame
```

```
df
```

```
team points assists rebounds
```

```
1 A 19 4 9
```

```
2 A 14 5 7
```

```
3 A 14 5 7
```

```
4 B 29 4 6
```

```
5 B 25 12 10
```

```
6 B 30 10 11
```

**Example 1: Select Column Names from Existing Data Frame**

The following code shows how to create a new data frame by selecting several column names from an existing data frame:

```
#define new data frame
```

```
new_df <- df
```

```
#view new data frame
```

```
new_df
```

```
team assists points
```

```
1 A 4 19
```

```
2 A 5 14
```

```
3 A 5 14
```

```
4 B 4 29
```

```
5 B 12 25
```

```
6 B 10 30
```

The new data frame contains three columns (team, assists, points) from the existing data frame.

**Example 2: Select & Rename Column Names from Existing Data Frame**

The following code shows how to create a new data frame by selecting and renaming several columns from an existing data frame:

```
#define new data frame
```

```
new_df <- data.frame('team_name' = df$team,
```

```
'total_assists' = df$assists,
```

```
'total_points' = df$points)
```

```
#view new data frame
```

```
new_df
```

```
team_name total_assists total_points
```

```
1 A 4 19
```

```
2 A 5 14
```

```
3 A 5 14
```

```
4 B 4 29
```

```
5 B 12 25
```

```
6 B 10 30
```

The new data frame contains three columns (team, assists, points) from the existing data frame, but we have specified new names for each of the columns in the new data frame.

This approach is particularly useful if you know ahead of time that you want to rename the columns in the new data frame.