



Microsoft: DAT209x Programming in R for Data Science



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Quiz due Jun 27, 2016 at 23:30 UTC



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Lab due Jun 27, 2016 at 23:30 UTC



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Study the following functions:

- `cat()`
- `density()`
- `hist()`
- `if()`
- `plot()`
- `summary()`

Access the help files with the `?` operator. For `if()` you should enclose it in double quotes: `? "if"`.

Write a function called `my.display()` that takes as its argument a vector.

The function should display the line "summary of input:" using the `cat()` function, and then a *summary* of the *argument* using the `summary()` function.

You can use the character `"\n"` in a text string to indicate line shifts.

Question 1

(1/1 point)

The function will look as follows:

```
my.display<-function(x){  
  ....  
  return(summary(x))  
}
```

What could be a solution to replace the empty line?

- ☐ `cat("Summary of input: (n)")`
- ☒ `cat("Summary of input: \n")` ✓
- ☐ `cat("Summary of input: n")`
- ☐ `cat("Summary of input: \\n")`

Expand `my.display()` to also contain an option for information on the argument in terms of a graph.

- This graph should be either a histogram (the `hist()` function), or a density plot (the `plot()` and `density()` functions).
- The histogram should by default list counts on the y axis (as `hist()` by default does), but `my.display()` should also contain an option for having frequencies on the y-axis of a histogram rather than counts.
- If the call indicates that a graph is wanted, but it isn't specified whether the graph should be a histogram or a density plot, no plot should be generated.
- Instead, the function should display the line "Please specify type as either hist or density" , where 'hist' and 'density' are the identifiers used to indicate if the plot should generate a histogram or a density plot, and 'type' is the variable that stores this information.

Once you have created the new `my.display()` function, run the following command:

```
set.seed(1234)
my.data<-rnorm(200)
```

Question 2

(1/1 point)

Run the following command:

```
my.display(my.data)
```

What is the median of the data as shown by the my.display() function?

☐ -0.77410

☒ -0.17190 ✓

☐ -0.05776

☐ 0.55330

Question 3

(1/1 point)

Run the following command:

```
my.display(my.data,display=TRUE,type="hist")
```

Which option best describe the type of the chart, the x axis, the y axis, and the chart title:

- ☐ Bar chart, x, Density, Histogram of X
- ☒ Bar chart, x, Frequency, Histogram of X ✓
- ☐ Bar chart, x, Density, density.default(x=x)
- ☐ Line chart, N = 200 Bandwidth = 0.309, Density, density.default(x=x)
- ☐ Line chart, x, Density, density.default(x=x)
- ☐ No chart is displayed, instead "Please specify type as either hist or density" is printed

Question 4

(1/1 point)

Run the following command:

```
my.display(my.data,display=TRUE,type="hist",prob=TRUE)
```

Which option best describe the type of the chart, the x axis, the y axis, and the chart title:

- ☒ Bar chart, x, Density, Histogram of X ✓
- ☐ Bar chart, x, Frequency, Histogram of X
- ☐ Bar chart, x, Density, density.default(x=x)
- ☐ Line chart, N = 200 Bandwidth = 0.309, Density, density.default(x=x)
- ☐ Line chart, x, Density, density.default(x=x)
- ☐ No chart is displayed, instead "Please specify type as either hist or density" is printed

Question 5

(1/1 point)

Run the following command:

```
my.display(my.data,display=TRUE,type="density")
```

Which option best describe the type of the chart, the x axis, the y axis, and the chart title:

- ☐ Bar chart, x, Density, Histogram of X
- ☐ Bar chart, x, Frequency, Histogram of X
- ☐ Bar chart, x, Density, density.default(x=x)
- ☒ Line chart, N = 200 Bandwidth = 0.309, Density, density.default(x=x) ✓
- ☐ Line chart, x, Density, density.default(x=x)
- ☐ No chart is displayed, instead "Please specify type as either hist or density" is printed

Question 6

(1/1 point)

Run the following command:

```
my.display(my.data,display=TRUE)
```

Which option best describe the type of the chart, the x axis, the y axis, and the chart title:

- ☐ Bar chart, x, Density, Histogram of X
- ☐ Bar chart, x, Frequency, Histogram of X
- ☐ Bar chart, x, Density, density.default(x=x)
- ☐ Line chart, N = 200 Bandwidth = 0.309, Density, density.default(x=x)
- ☐ Line chart, x, Density, density.default(x=x)
- ☒ No chart is displayed, instead "Please specify type as either hist or density" is printed



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