ISE 5103: Assignment #Sample

Due on Monday, April 1, 2014

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Problem #1

(a) Create a vector of strings and demonstrate access to elements

```
x<−c('R','is','a','powerful','open source','statistical','scripting language')
x[1] #access first element
x[4:6] #access third thru fifth elements
```

Output of R console:

```
> x[1]    #access first element
[1] "R"
> x[4:6]  #access third thru fifth elements
[1] "powerful"    "open source" "statistical"
```

(b) Use the `length` function to help insert a new element in to the vector.

```
#create a new vector "z" from x, but insert "my favorite"
z<−c(x[1:2],"my favorite",x[4:length(x)])
```

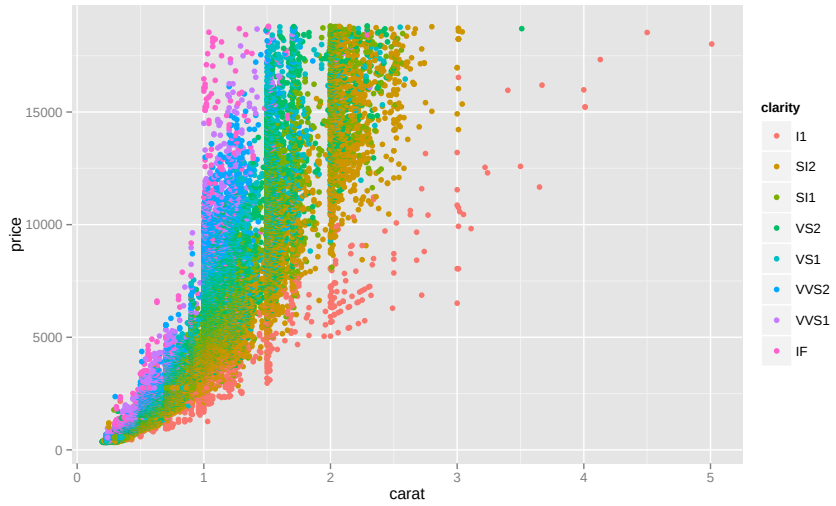
Output of R console:

```
> z  #view the results
[1] "R"                 "is"                "my favorite"       "powerful"
[5] "open source"       "statistical"       "scripting language"
```

Problem #2

(a) Create and comment on a visualization of diamond carat vs price vs clarity using `qplot`

```
#scatterplot of diamond carat and price and clarity
qplot(carat, price, data = diamonds, colour = clarity)
```



The price increases as carat size increases, however rate is obviously different based on clarity (which is represented by different colors). The “IF” clarity obtains very high prices at 1 carat, whereas ’l1’ requires carat size of 4+ to achieve the same prices.