Homework from class 3

First make the large array:

```
 my_array = ((‘a'..'z').collect.to_a + ('A'..'Z').collect.to_a+
('0'..'9').collect.to_a)
=> ["a", "b", "c", "d", "e", "f", "g", "h", "i", "j", "k", "l", "m",
"n", "o", "p", "q", "r", "s", "t", "u", "v", "w", "x", "y", "z", "A",
"B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L", "M", "N", "O",
"P", "Q", "R", "S", "T", "U", "V", "W", "X", "Y", "Z", "0", "1", "2",
"3", "4", "5", "6", "7", "8", "9"]
```

shuffle is a method on arrays.

```
my_array.shuffle
=> ["0", "J", "c", "w", "i", "F", "x", "L", "2", "m", "Z", "D", "8",
"Y", "S", "f", "4", "t", "R", "O", "C", "3", "M", "I", "K", "q", "A",
"h", "W", "s", "g", "Q", "n", "E", "e", "d", "X", "a", "r", "V", "u",
"P", "z", "U", "B", "v", "H", "o", "b", "7", "5", "l", "N", "G", "p",
"T", "y", "9", "j", "1", "6", “k"]
```

join takes an array and turns it into a string:

```
irb(main):015:0> my_array.shuffle.join
=> “V4v2W1sBOtxueriCTKbF57a6w9Gln38p0kmYcUgjSZhMHyoENPdAqRIQfzDXLJ"
```

Now pick a string of n characters from the result. If n = 10,

```
irb(main):016:0> my_array.shuffle.join[0..n-1]
=> “zTuYNW97oJ"
```

Note: Each time you run shuffle, you will get a different order for your elements. I ran shuffle for the join statement and then again when I selected the first 10 characters, hence the characters for the result aren’t the same as the first characters after I for the join statement in the next-to-last step.

```
irb(main):004:0> my_array.shuffle.join[0..n-1]
=> "60uHrC7gSz"
irb(main):005:0> my_array.shuffle.join[0..n-1]
=> "FeXGDOyzM9"
irb(main):006:0> my_array.shuffle.join[0..n-1]
=> “Fksh9qgEKQ"
```

This could be refined by changing the original array to leave out letters or numbers that cause confusion in some fonts, such as capital o and zero (0), lower-case L (l) and one(1), etc.

Another solution:

```
# provide a one-liner that will create a password of a
# random sequence of characters, selected from a, of a given length n.

puts "Enter password length: "
n = gets.chomp.to_i
a = (('a'..'z').collect.to_a + ('A'..'Z').collect.to_a + ('0'..'9').collect.to_a)
passwd = String.new

n.times do
  #the sample method chooses a random element from the array.
  passwd << a.sample
end

puts passwd
```

Output:

```
ruby passgen_with_sample.rb
Enter password length:
10
DigtJrInCj

ruby passgen_with_sample.rb
Enter password length:
10
YSUiVWGBhc

 ruby passgen_with_sample.rb
Enter password length:
10
P8kmTrLtES
```