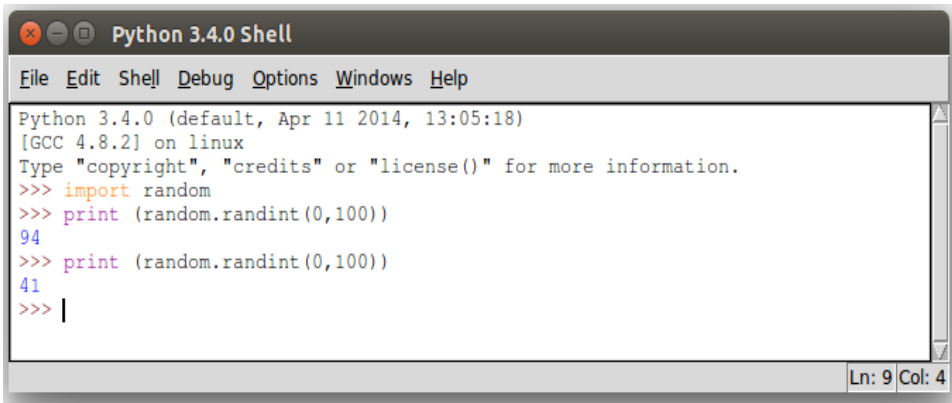


# Lists and random functions



```
Python 3.4.0 Shell
File Edit Shell Debug Options Windows Help
Python 3.4.0 (default, Apr 11 2014, 13:05:18)
[GCC 4.8.2] on linux
Type "copyright", "credits" or "license()" for more information.
>>> import random
>>> print (random.randint(0,100))
94
>>> print (random.randint(0,100))
41
>>> |
Ln: 9 Col: 4
```

## Try out the random number generator

In the IDLE Python shell, import the "random" library. Type `import random` and press Enter.

Let's try one of the functions from this library. Type: `print (random.randint(0,100))` and press Enter.

This will output a random number between 0 and 100.

Now let's see what happens if we repeat exactly the same command again. Type: `print (random.randint(0,100))` again and press Enter.

You should now see that Python has chosen a different number.

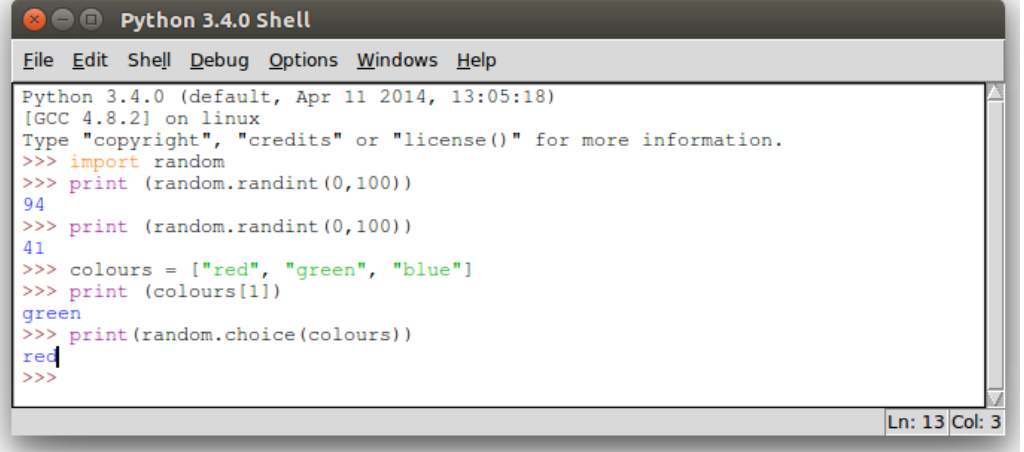
## Create a "list"

A list is a special variable that can store many values. In the same shell type

`colours = ("red", "green", "blue")` and press Enter.

We have now stored three items in a list called "colours". We can access

these with indexes. The index starts at 0 for the first item and increases, try the command: `print (colours[1])` and press Enter to output one of these items.



```
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Type "copyright", "credits" or "license()" for more information.
>>> import random
>>> print (random.randint(0,100))
94
>>> print (random.randint(0,100))
41
>>> colours = ["red", "green", "blue"]
>>> print (colours[1])
green
>>> print (random.choice(colours))
red
>>>
Ln: 13 Col: 3
```

## Pick a random item from the list

We can use another function from the random library.

Let's get python to choose a random colour from our list. Type the command `print(random.choice(colours))` and press Enter.

You should see that Python has chosen a colour at random from the list.

We can use lists of words and random choices to make Python programs that can *seem* to be creative and intelligent.

# Project 3:

## Python sentence maker Program Recipes: Compliment generator.

1. We are going to use `random.choice` and some lists of words to make a program that can create compliments.

Create a new Python program file by clicking `File` → `New File` in the IDLE Python shell.

2. Our program will need to choose words at random from the lists we make to generate compliments using `random.choice`. We need to import the random library so we can use this. In the new program file window, enter the first line: `import random`

4. We need a variable to store the compliment as our program constructs it. Create this variable and start off the compliment.

Add the second line to our program:

```
compliment = "You have "
```

Next, create a list of complimentary words:

```
adjectives = ("nice", "lovely", "stinky")
```

3. We will also need something for our program to compliment.

```
body_parts = ("eyes", "teeth", "hands")
```

Now, use `random.choice` to choose words from these two lists and store these choices in the "compliment" variable.

```
compliment = compliment +  
random.choice(adjectives) + " "
```

and

```
compliment = compliment +  
random.choice(body_parts) + "."
```

5. Your program should now look something like this:

```
import random
```

```
compliment = "You have "
```

```
adjectives = [("nice", "lovely", "beautiful")]
```

```
body_parts = [("eyes", "teeth", "feet")]
```

```
compliment = compliment + random.choice(adjectives) + " "
```

```
compliment = compliment + random.choice(body_parts) + "."
```

Finally, we need to output the compliment, add this final line:

```
print(compliment)
```

6. Run the program by clicking `Run` → `Run Module`. Congratulations you have just made a creative, complimentary computer program. If you run this program a few times you will notice it's a bit limited. Can you add more words to the lists of compliments and body parts so that your program seems to make more varied compliments? For example, expand your adjectives:

```
adjectives = ("nice", "lovely", "beautiful", "clever")
```