

Generate Random Numbers in Python

We can generate **random** numbers in python by importing the “**random**” module. The random module gives us access to a lot of useful methods involving random numbers. For a comprehensive list:

```
import random
print(help(random))
```

To simulate the roll of a dice, we'll need a whole **integer** between 1 and 6.

```
import random

number = random.randint(1, 6) # <-- random integer from 1 to 6
print(number)
```

The minimum and maximum value of the random number can be specified by a variable:

```
import random

low = 20
high = 45
number = random.randint(low, high)
print(number)
```

For a random floating point number, use the `random()` method:

```
import random

number = random.random() # <-- generates float between 0 and 1
print(number)
```

To pick a random choice from a sequence, if we have a **tuple** of options, we can access the **random** module, then use the **choice** method and place our **tuple** within the **choice** method.

```
import random

options = ("rock", "paper", "scissors")
option = random.choice(options)
print(option)
```

There is also a **shuffle** method which allows us to **shuffle** a sequence:

```
import random

cards = ['2', '3', '4', '5', '6', '7', '8', '9', '10', 'J',
         'Q', 'K', 'A']
random.shuffle(cards)
print(cards)
```

Exercise:

Create a number guessing game. A user has to guess a number between a certain range (1 – 100).

Solution:

```
import random

low = 1
high = 100
guesses = 0
number = random.randint(low, high)

while True:
    guess = int(input(f"Guess a number between {low} and
{high}: "))
    guesses += 1

    if guess < number:
        print(f"{guess} is too low")
    elif guess > number:
        print(f"{guess} is too high")
    else:
        print(f"Well done!! {guess} is correct")
        break

print(f"You guessed the answer in {guesses} tries!")
```