Description: We will be making a basic slot machine game. Here we will be presenting a useful package called random, which selects a random number within a range of numbers. At first, this sounds pretty plain so we will also be creating our random number generator to go along with this.

Why?: A random number generator is an interesting concept, for one it teaches us that everything we make with it isn't random. It's a tool that will be useful in the future for a large number of things outside of this book. As well, the idea of threading can often be difficult to comprehend.

To-do:
Starting money: 100 fake dollars
- Random number generator (create)
- Possible results 1-5 combos
- Win and lose situations
- Gameover check
- Visual display moving image (Like time)
- Button to trigger selection

Extra:
- Make a random number generator

Code:
    Beginner:
        Step 1:

```python
import random
def game():
  wallet = 100
  spin_cost = 7
  while(wallet >0):
      wallet = wallet - spin_cost
      first = random.randint(0,5)
      second = random.randint(0,5)
      third = random.randint(0,5)

      # gain check
      gain = first+second+third
      print("winner: "+gain)
  print("Gameover")
```

* First line is an import package that lets us use a random number generator.

* We are using the random.randint(0,5) this means spit out a random number between 0 and 5
==Import random package to use function randint==
==Define a function game that will contain our main game==
==   Wallet variable will contain 100 points of currency to start==
==   Set cost for each spin to 7==
==   Loop while wallet contains money==
==   Remove spin cost from user's wallet==
==   First, second, and third variables will represent each wheel in our slot machine==
==   If the combination of all of them is greater then a certain threshold then we have==
==   a winner==
==   Print status==

Step 2:

```python
def game():
    wallet = 100
    spin_cost = 8
    while(wallet >0):
        wallet = wallet - spin_cost
        first = rand_gen(0,5)
        second = rand_gen(0,5)
        third = rand_gen(0,5)

        # gain check
        gain = first + second + third
        wallet = wallet + gain
        win = str(gain)
        print("winner: "+win)
    print("Gameover")

def rand_gen(start, end):
    # get seed
    f = open("seed.txt", "r")
    seed = int(f.read())
    print(seed)
    mut = seed * seed
    new_string = str(mut)[0:9]
    new_seed = new_string[1:len(new_string)-1]

    # change seed for next use
    c = open("seed.txt", "w")
    c.write(new_seed)
```

```
    for i in new_seed:
        num = int(i)
        if(start <= num and end >= num):
            return num


    # When no number within range
    return rand_gen(start,end)


game()
```

* Now we add the new random number generator. Our new generator uses something called a seed, it is the source of our randomness. In this situation, I just typed 7 random digits into a file called seed.txt. Then we multiply it by itself and remove the excess numbers and put it back in.

* You may notice that we are opening and closing files now. We are using an internal function that python has (someone wrote code and it's included with the python download). This function opens a file in the current directory and reads it or writes to it. When we have "r" it's to read and when you have "w" it's to write to the file but also to overwrite the file.

* We also introduced two things that may look weird str() and int() these two do similar things. We are changing a variable from a number to a string(str) and a string to a number. Since in programming "100" is not the same as 100. So to prevent the computer from getting confused about why you are doing math with a sentence we tell it that "100" is 100. Or vice versa.

* Another thing that might confuse you is str(mut)[0:9]. This means turning the variable mut into a string but then we are specifying that we only want the characters between the 0 and 9th positions. For example, let's say we have a value "Hello reader" now if we take [0:9] of this we get "Hello rea" as our result.

Define a function game that will contain our main game
        Wallet variable will contain 100 points of currency to start
        Set cost for each spin to 7
        Loop while wallet contains money
                Remove spin cost from user's wallet
                First, second, and third variables will represent each wheel in our slot machine
                If the combination of all of them is greater then a certain threshold then we have a winner
        Print status
Define function rand_gen to create a random number has parameters for start and end values
        Open a file called seed.txt (Contains our random numbers for our random number generator)
        Turn the values in seed.txt to integer
        Variable mut is equal to seed times seed
        Variable new_string keep the first 9 characters of mut for new random number

Step 3:

```python
import time
import threading


f = True
s = True
t = True


count = 0


def get_input():
    global count,f,s,t
    data = input()
    if(count == 0):
        count+=1
        f = False

    elif(count == 1):
        count+=1
        s = False

    elif(count == 2):
        count+=1
        t = False

    return data

def game():
    global f,s,t, count

    wallet = 100
    spin_cost = 8

    while(wallet >0):
        wallet = wallet - spin_cost
        first = 0
        second = 0
```

```python
        third = 0
        count = 0
        f1 = True
        s1 = True
        t1 = True
        f = True
        s = True
        t = True


        while True:
            if(f):
                first = rand_gen(0,5)
                if(f1):
                    input_thread = threading.Thread(target=get_input)
                    input_thread.start()
                    f1 = False
            elif(s):
                second = rand_gen(0,5)
                if(s1 and not f):
                    input_thread = threading.Thread(target=get_input)
                    input_thread.start()
                    s1 = False
            elif(t):
                third = rand_gen(0,5)
                if(t1 and not f and not s):
                    input_thread = threading.Thread(target=get_input)
                    input_thread.start()
                    t1 = False
            else:
                break
            roll = '{:1d}:{:1d}:{:1d}'.format(first,second,third)
            print(roll, end ="\r")
            time.sleep(1)


        # gain check
        gain = first + second + third
        wallet = wallet + gain
        win = str(gain)
        print("winner: "+win)
    print("Gameover")


def rand_gen(start, end):
```

```
    # get seed
    f = open("seed.txt", "r")
    seed = int(f.read())
    mut = seed * seed
    new_string = str(mut)[0:9]
    new_seed = new_string[1:len(new_string)-1]

    # change seed for next use
    c = open("seed.txt", "w")
    c.write(new_seed)

    for i in new_seed:
        num = int(i)
        if(start <= num and end >= num):
            return num

    return rand_gen(start,end)

game()
```

* Threads are branching off programs. So we create these branches and they run at the same time. This can allow us to do multiple things at the same time. In this situation, we are going to use it to create a spinning number sort of effect. Once we enter any info from using one of the values will stop depending on our values.

* We are using 'Flags' to show which wheel to stop. A flag is something that shows that an event has happened so we know when to stop or start something in our program.

Import time and threading packages
Set variables f,s, and t to True to control the spinning of the wheels
Set count variable to 0
Define get_input for setting each individual wheel
        Get global variables count, f, s, and t
        Set variable data with user input
        If count is 0
                Increment count and set f to false
        If count is 1
                Increment count and set s to false
        If count is 2
                Increment count and set t to false
        Return user input

Define a function game that will contain our main game

Get global variables f,s,t and count
Wallet variable will contain 100 points of currency to start
Set cost for each spin to 7
Loop while wallet contains money
Remove spin cost from user's wallet
First, second, and third variables will represent each wheel in our slot machine
Set variables f1,s1,t1,f,s, and t to True
While True
If f is true
Generate first number (and update)
If f1 is true (Only enter here once)
Create a thread for waiting for user input
Set f1 to false
Else if s is true
Generate second number (and update)
If s1 is true (Only enter here once)
Create a thread for waiting for user input
Set s1 to false
Else if t is true
Generate third number (and update)
If t1 is true (Only enter here once)
Create a thread for waiting for user input
Set t1 to false
Else break to exit while loop
Print current first, second and third numbers
Sleep for 1 second
If the combination of all of them is greater then a certain threshold then we have a winner
Print status
Define function rand_gen to create a random number has parameters for start and end values
Open a file called seed.txt (Contains our random numbers for our random number generator)
Turn the values in seed.txt to integer
Variable mut is equal to seed times seed
Variable new_string keep the first 9 characters of mut for new random number
Save variable to seed.txt
Go through all numbers in our new seed
Find one that is within the range of start to end
Return the number found

Extra:

For extra stuff look here:

https://github.com/DownRamp/Games/blob/master/slotMachine.py

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THIS IS THE IMPORTANT PART PLEASE DON'T SKIP
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Next steps:
- Add a visual aspect to it
- Add extra rows, make it more complicated somehow
- Make a more advanced random number generator
- Change it completely and make a random selector (What will I eat today? Kind of program)