

Episode 6 Homework

All modern slot machines operate electronically, through software. Let us write a simple simulation of a slot machine (for our amusement only).

Our machine will be fairly traditional and will have three “reels” each containing ten symbols, consisting of a cherry, a lemon, a grape, a bell, a bar, the number 7, a diamond, a melon, an orange, and a dollar sign (\$). The dollar sign occurs once on each reel. The 7 occurs twice on each reel, the cherry three times, the bar and lemon five times, and all other symbols occur four times. That is a total of 32 symbols per reel.

To play, the player inserts some money for each spin, the *bet*. The machine randomly chooses one item from each reel and displays the three selected. Any payouts are determined by the “pay table”. For our machine the pay table will be

Three dollar signs: Jackpot! Payout $\$100 \times \text{bet}$

Three sevens: Payout $\$70 \times \text{bet}$

Three cherries: Payout $\$50 \times \text{bet}$

You will need to use the Python `random` module. Look up its documentation online. Do you think the `choice` function might be appropriate? Set up a list, which you might want to call `reel`, in advance. Try to figure out a way to distribute the symbols so that repeats are not adjacent to one another, though this isn’t critical to the program.

Write a function called `pull` to generate a new list of three symbols.

Since we are simulating an old-fashioned coin-operated slot machine, we will ask the player for a bet for each pull. We did not cover console input in the videos but to request a number from the player, use the following line of code (for Python 2.7):

```
bet=float(raw_input("Enter bet:"))
```

In your `main` function create an infinite loop with
`while True:`

And add the above line. After accepting the bet, invoke the `pull` function you wrote. Keep a running total of the player’s wins/losses; if there is no payout deduct the bet from the total. After displaying the new total, ask the player whether he or she wishes to play again with

```
answer=raw_input("Play again? Type y or n:")
```

```
Then if answer=='n': break
```

Once outside the loop you can print some message such as "Thank you for playing!"