

You are to write a Python program that allows a user to play a video poker game that uses dice. The base set of rules is as follows:

- A player starts with \$100.
- Each round costs \$10 to play. This amount is subtracted from the user's money at the start of the round.
- The player starts the round with five randomly rolled dice.
- The player gets two chances to enhance the hand by rerolling some or all of the five dice.
- At the end of the hand, the player's money is updated according to the following payout schedule:

Hand	Example	Payout
Two Pairs	4, 4, 3, 6, 6	\$ 5
Three of a Kind	2, 4, 1, 1, 1	\$ 8
Full House (a pair and a three of a kind)	3, 5, 5, 5, 3	\$ 12
Four of a Kind	3, 3, 3, 3, 6	\$ 15
Straight (1-5 or 2-6)	5, 2, 3, 1, 4	\$ 20
Five of a Kind	3, 3, 3, 3, 3	\$ 30

A text-based user-interface might go something like this:

```
Welcome to video poker!
You currently have $100.
It costs $10 to play. Do you wish to try your luck (y or n)?  y
Roll 1 Dice: [6, 4, 4, 2, 4]
Positions:    1  2  3  4  5
Enter the positions of the dice you want to reroll (or Enter to stop):  1  4
Roll 2 Dice: [3, 4, 4, 4, 4]
Positions:    1  2  3  4  5
Enter the positions of the dice you want to reroll (or Enter to stop):  1
Roll 3 Dice: [2, 4, 4, 4, 4]
Four of a Kind.  You win $15!
You currently have $105.
Do you wish to try your luck (y or n)?  y
. . .
```

### Implementation Options:

1. Write a procedural program that is text-based (like the above sample interaction)
2. Write an object-oriented program (or one that uses classes at least) that is text-based
3. Write an object-oriented program (or one that uses classes at least) that is GUI-based using Python's Tkinter module.

The maximum score for all three options is the same. I'll let you decide which to do based on your programming ability, time commitments of other courses, etc.

As always, when you write your program, be sure you:

- (if needed) mock-up how you want your GUI-base screen should behave before you try to write code
- think about the design before you start to write code
- use meaningful variable names with good style (i.e., useCamelCase or use\_underscores)
- use comments at the start of the program **and** before each function describing what they do (see Program 3-3 on pp. 88-90)

**Submit your homework electronically at [http://math-cs.cns.uni.edu/~schafer/submit/which\\_course.cgi](http://math-cs.cns.uni.edu/~schafer/submit/which_course.cgi)**

**Submit the following files:**

- **videoPoker.py** (your Python program)
- **design.doc** (or design.txt, or design.rtf) a document describing the design of your program