

```
# TheCardClass.py
""" Contains the Card class."""
```

```
from random import randint as randi
```

```
class Card(object):
    """ Represents a playing card.
```

```
Attributes:
```

```
    suit: an int that encodes the suit,
           0=Clubs, 1=Diamonds, 2=Hearts, 3=Spades
    rank: an int that encodes the rank,
           1='Ace',2='Two',...,10='Ten',11='Jack',12='Queen',13='King'
    """
```

```
# Class variables
```

```
suit_names = ['Clubs','Diamonds','Hearts','Spades']
rank_names = [None,'Ace','Two','Three','Four','Five','Six',
               'Seven','Eight','Nine','Ten','Jack','Queen','King']
```

```
def __init__(self,suit=None,rank=None):
    """Returns a card object that represents a
    card whose suit is specified by suit and whose rank is
    specified by rank.
```

```
Calls of the form Card() return a random card.
```

```
Pre: suit is an int that satisfies 0<=suit<=3
     rank is an int that satisfies 1<=rank<=13
    """
```

```
if suit==None and rank==None:
```

```
    self.suit = randi(0,3)
    self.rank = randi(1,13)
```

```
else:
```

```
    self.suit = suit
    self.rank = rank
```

```
def __str__(self):
```

```
    """ Returns a string s such that print s
    nicely displays self.
    """
```

```
    i = self.suit # suit index
    theSuit = self.suit_names[i]
    j = self.rank # rank index
    theRank = self.rank_names[j]
    s = theRank+'-of-'+theSuit
    blanks = ' '
    return blanks[:8-len(theRank)]+theRank+' of '+theSuit+blanks[:8-len(theSuit)]
```

```
def __cmp__(self,other):
```

```
    """ Returns 1 if self>other, -1 if self<other, and 0 if
    self and other represent the same card.
    """
```

```
# Spades beats Hearts beats Diamonds beats Clubs
```

```
if self.suit > other.suit:
```

```
    return 1
```

```
if self.suit < other.suit:
```

```
    return -1
```

```
# If the cards are from the same suit, then
# King beats Queen beats Jack beats ten beats ... beats two beats ace
if self.rank > other.rank:
    return 1
if self.rank < other.rank:
    return -1
# If we "get this far" then the two cards are the same
return 0
```