

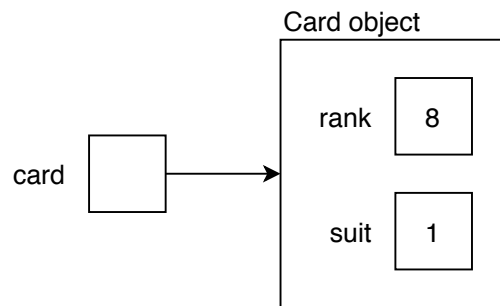
# Model 1 Objects

Consider the definition for a playing card:

```
public class Card {  
    private int rank; // 1=Ace, ..., 11=Jack, 12=Queen, 13=King  
    private int suit; // 0=Clubs, 1=Diamonds, 2=Hearts, 3=Spades  
  
    public Card(int rank, int suit) {  
        this.rank = rank;  
        this.suit = suit;  
    }  
}
```

Here is a memory diagram of a Card object:

```
Card card = new Card(8, 1);
```



## Questions (15 min)

**Start time:**

1. Which card (i.e., “the \_\_\_\_\_ of \_\_\_\_\_”) is represented in the diagram?
2. In one line of code, show how you would construct the “4 of Clubs”.
3. What is the difference between lowercase `card` and uppercase `Card`? Explain in a few sentences how these concepts are illustrated in the diagram.
4. How are arrays and objects similar? How are arrays and objects different? Explain your answer in terms of how they are drawn in memory diagrams.

5. Draw (or describe) a diagram of the following source code:

```
Card card = null;
```

6. Draw (or describe) a diagram of the following source code:

```
Card card = new Card(5, 2);  
Card copy = card;
```

7. (Optional) Paste the contents of *Card.java* into [Java Visualizer](#). What differences do you notice between the diagram in Java Visualizer and those in Model 1?