

[1*] 1. Consider the following class:

```
class Empty {  
};
```

With the minimum number of member function additions, turn the class Empty into an abstract class.

[2*] 2. Define two classes **Smiley** and **Frowny**, which are both derived from class **Circle** and have two eyes and a month. Next, derive classes from **Smiley** and **Frowny**, which add an appropriate hat to each.

[1*] 3. Define an abstract class and try to define an object of that type. What happens?

[1*] 4. Define a class **Immobile_Circle**, which is just like **Circle** but can't be moved.