

```
/*--- HW11.java ---*/
public class HW11 {
    public static void main(String[] args) {
        Categorizer C = new Categorizer();

        C.add(new RecogASCII());
        C.add(new RecogJPG());
        C.add(new RecogPDF()); //added functionality for PDF detection
        C.printCategories(System.in);
    }
}

/*--- RecogPDF.java ---*/
/**
 * PDF Header is %PDF or 25 50 44 46
 * This recognizer check whether the first 4 bytes match this header
 */
public class RecogPDF extends RecogASCII {

    private static int[] header = { 0x25, 0x50, 0x44, 0x46 };
    private int i = 0;

    /**
     * Returns the name of this type
     * "PDF"
     */
    public String getName() {
        return "PDF";
    }

    /**
     * Function to ensure that header either matches or not matches a PDF
     */
    public void feed(int nextByte) {
        if (getState() == 2) {
            if (nextByte != header[i]) {
                setState(0);
            }
        }
        i++;

        if ((i > 3) && (getState() != 0)) {
            setState(1);
        }
    }

    /**
     * Returns whether or not this is a PDF or not
     */
    boolean decision() {
        return getState() == 1;
    }
}
```