

Serie 2 - Postscript

Exercise 1

Answer the following questions about Postscript:

- Why would you define your own dictionaries?
- When should you use `translate` instead of `moveto`?
- When would you use a matrix instead of `gsave/grestore`?
- Why is it important to leave the stack in a consistent state?
- Implement the equivalent of the following piece of code in postscript:

```
public int f(int a, int b) {  
    int d = x(a, b);  
    z(a, b);  
    return d;  
}
```

```
public int x(int a, int b) {  
    return a - b;  
}
```

```
public int z(int a, int b) {  
    return a + b;  
}
```

Exercise 2

Define a procedure in postscript that will draw a chicken given the following arguments on the stack:

1. x and y coordinates of the center of the chicken's body.
2. Radius of the body.
3. Radius of the head.
4. Length of the beak
5. Length of the legs
6. Length of the wings

The call to the procedure should look like this

```
% x y body head beak legs wings  
350 400 30 30 30 30 30 chicken
```

The following pages contain example chickens and the procedure called used to generate them. They were generated by the following postscript code:

```
/Times-Roman findfont
18 scalefont
setfont

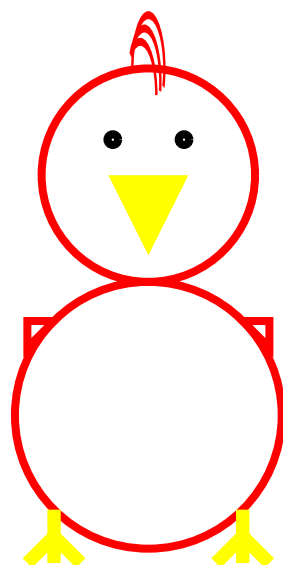
%%Pages: 4
%%Page: 1 1
100 700 moveto
(350 400 50 40 30 20 10 chicken) show
% x y body head beak legs wings
350 400 50 40 30 20 10 chicken
showpage
%%Page: 2 2
100 700 moveto
(350 400 10 20 30 40 50 chicken) show
% x y body head beak legs wings
350 400 10 20 30 40 50 chicken
showpage
%%Page: 3 3
100 700 moveto
(350 400 30 30 30 30 30 chicken) show
% x y body head beak legs wings
350 400 30 30 30 30 30 chicken
showpage
%%Page: 4 4
100 700 moveto
(350 400 80 30 50 40 40 chicken) show
% x y body head beak legs wings
350 400 80 30 50 40 40 chicken
showpage
```

Please use the provided template which contains this code, as it will make it easier for you (and us) to check your solution.

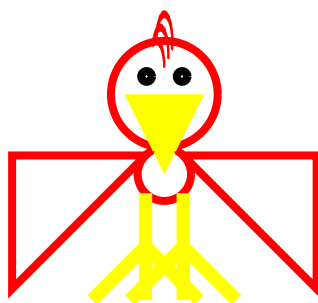
Try to define sub-procedures whenever it makes sense. Please note that the position of the wings and legs should be dependent on the size of the chicken's body. Same goes for the position of the beak and eyes with respect to the size of the head.

Feel free to be creative!

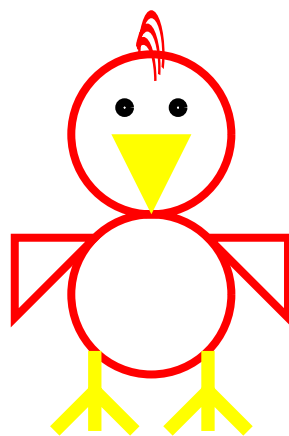
350 400 50 40 30 20 10 chicken



350 400 10 20 30 40 50 chicken



350 400 30 30 30 30 30 chicken



350 400 80 30 50 40 40 chicken

