

Here is the results of the successful compilation and what you will see on the screen once you run the program:

```
ehsan@chortkeh:~/ICS/212/HW10> ls
animal.cpp animal.h bird.cpp bird.h cow.cpp cow.h hw10 hw10.cpp Makefile
ehsan@chortkeh:~/ICS/212/HW10> make all
c++ -c hw10.cpp
c++ -c animal.cpp
c++ -c cow.cpp
c++ -c bird.cpp
c++ -o hw10 hw10.o animal.o cow.o bird.o
ehsan@chortkeh:~/ICS/212/HW10> ./hw10
```

Here, all animals are separated by different colors. Animals are represented by violet, cows by brown and all birds are green. As you can see, once the function `animaldisplaydata()` is called, the `displaydata()` method of the animal class would be invoked. Therefore, the number of legs is not printed out. All the animals are stored inside a vector here.

```
*****
*** Testing animaldisplaydata()
*** using a defined vector holding
*** all animals

Here the displaydata() method of animal
class would be called for all animals
*****
The size of zoo vector is 11
```

1

This is an animal ....  
Sound: bark  
Can Fly: No

2

This is an animal ....  
Sound: buzz  
Can Fly: Yes

3

This is an animal ....  
Sound: whinny  
Can Fly: No

4

This is an animal ....  
Sound:  
Can Fly: No

5

This is an animal ....  
Sound: moo  
Can Fly: No

6

This is an animal ....

```
Sound: moo
Can Fly: No
```

7

```
This is an animal ....
Sound: moi
Can Fly: No
```

8

```
This is an animal ....
Sound: quack
Can Fly: Yes
```

9

```
This is an animal ....
Sound: caaaw caaaw
Can Fly: Yes
```

10

```
This is an animal ....
Sound: gig
Can Fly: Yes
```

11

```
This is an animal ....
Sound: cock-a-doodle-doo
Can Fly: No
```

Here, all the cows and birds are stored in a separated maps, with their name as the String type key. As you can see, when the `displaydata()` is called for each object, its own overrided method is invoked and the type of the object is displayed correctly.

```
*****
*** Testing displaydata() for cow
*** using a defined Map
*****
The size of Cowsmap is 3
```

```
Key: "Default Cow"
This is a cow ....
Sound: moo
Can Fly: No
Legs: 4
```

```
Key: "Cow1"
This is a cow ....
Sound: moo
Can Fly: No
Legs: 4
```

```
Key: "Cow2"
This is a cow ....
Sound: moi
Can Fly: No
Legs: 3
```

```
*****  
*** Testing displaydata() for bird  
*** using a defined Map  
*****
```

The size of Birdsmap is 4

Key: "Default Bird"  
This is a bird ....  
Sound: quack  
Can Fly: Yes

Key: "Crow"  
This is a bird ....  
Sound: caaaw caaaw  
Can Fly: Yes

Key: "Eagle"  
This is a bird ....  
Sound: gig  
Can Fly: Yes

Key: "Rooster"  
This is a bird ....  
Sound: cock-a-doodle-doo  
Can Fly: No

```
ehsan@chortkeh:~/ICS/212/HW10>
```