

Stream Manipulators and Formatting Exercises

Stream Manipulators

- Explain what is meant by a "stream manipulator"

Printing Booleans

- Write a simple program which prints out Booleans as "true" or "false"

setw() manipulator

- What does setw() do?
- Describe how to use setw()

Left Justification

- What is meant by "justification" in the context of text formatting?
- How can the justification be changed for a C++ stream?

Left Manipulator

- Write a simple program which produces output formatted like this

```
Penguins 5  
Polar Bears 2
```

"Sticky" Manipulators

- What does it mean when a manipulator is "sticky"?
- How does this differ from a non-sticky manipulator?

Setfill Manipulator

- What effect does applying the setfill manipulator have on the output?
- Write a simple program which produces output formatted like this

```
#####Penguins 5  
###Polar Bears 2
```