Weather Grabber
Description

The National Weather Service is a part of the National Oceanic and Atmospheric Administration and is charge of providing weather forecasts and warnings all around the U.S.
You can find all sorts of great weather maps, weather data, climate news, and information on natural disasters on their Web pages.

One of the services provided by the National Weather Service is their Internet Weather Source, an online source for weather maps, current conditions, and weather forecasts.
The NWS maintains a network of automated weather monitoring stations all around the country, most operating from airports.
The purpose of these weather stations is to provide current weather information for aviation.
The stations make their data available over the Internet in a special format called METAR.
The METAR codes form a very abbreviated summary of the weather conditions at the various reporting stations. The NWS provides a detailed description of the METAR system and codes.
A METAR report is in the form:

==========METAR Report==========

2001/11/17 15:38
KSGS 171538Z AUTO 19005KT 7SM CLR M01/M05 A3021 RMK AO2

A fresh copy of this report can be obtained by pointing your Web browser (or Python program) to
ftp://weather.noaa.gov/data/observations/metar/stations/KSGS.TXT.

You can probably already guess about some the features of the METAR code. The following table summarizes some of the important features of this particular

METAR report:
2001/11/17 →The date of the last observation.
15:38 → The time of the last observation. (Note: This time is in 24-hour format and is expressed in GMT (Greenwich Mean Time) or "Zulu" in aviation-speak.)
KSGS → The four-letter station code. "KSGS" is the station at the South St. Paul

Municipal-Richard E. Fleming Field Airport.
Other station codes can be found by searching by state and airport at the Internet Weather Source page (use the "United States Weather" search).
171538Z →This is a further abbreviated field indicating the date and time (Z for "Zulu")
AUTO → The KSGS station reports its data "automatically."
19005KT → Wind direction and velocity.
This indicates a direction of "190" and a velocity of 05 knots.
This field can be more complicated if there are wind gusts.
You might see something like 19010G25KT which means that winds are at 10 gusting to 25 knots.
7SM → The visibility is 7 statute miles.
CLR → The sky is "clear"
M01/M05 → The current temperature is -1 C and the dew point is -5 C. (Negative (minus) numbers are indicated by the "M" in front of the numbers.)
A3021 → The atmospheric pressure is 30.21" of mercury.

The NWS also provides a short guide that lists more of the common METAR codes.
Input

Your program should prompt the user for a four-letter METAR station code.
Output

Your program will take the METAR station code, retrieve the relevant weather data, and print a summary of the current conditions.
You must print at least the → current time, date, temperature, wind speed and direction. If you finish your program before the due date, begin added the other fields.
Sample run

The following is the minimum you are expected to complete. Add more features as time allows.

Current weather conditions

This program retrieves the current weather conditions from the National Weather Service.

Enter a four-letter station ID (e.g., 'KSGS')
Get weather from what station? KSGS
Current conditions for KSGS
Last observation: 2001/11/17 at 15:38 GMT
Temperature: -1 C (30 F)
Wind: S at 6 mph (5 knots)

Going further

There are many ways to extend this program:
Include more METAR data in your report.
Calculate the wind chill.
The National Weather Service has published a new wind chill formula that you should use as a reference.
Investigate using regular expressions to pull out the weather information.
Regular expressions are a very powerful tool that are defintely worth learning.