

Lec08 IAM550 J. Raeder 9/19/2019 text strings, file I/O

Run lec08\_a.m

Print formatting:

| Value Type            | Conversion | Details   |
|-----------------------|------------|---|
| Integer, signed       | %d or %i   | Base 10   |
| Integer, unsigned     | %u         | Base 10   |
|                       | %o         | Base 8 (octal)  |
|                       | %x         | Base 16 (hexadecimal), lowercase letters a–f  |
|                       | %X         | Same as %x, uppercase letters A–F   |
| Floating-point number | %f         | Fixed-point notation (Use a precision operator to specify the number of digits after the decimal point.)                            |
|                       | %e         | Exponential notation, such as 3.141593e+00 (Use a precision operator to specify the number of digits after the decimal point.)      |
|                       | %E         | Same as %e, but uppercase, such as 3.141593E+00 (Use a precision operator to specify the number of digits after the decimal point.) |
|                       | %g         | The more compact of %e or %f, with no trailing zeros (Use a precision operator to specify the number of significant digits.)        |
|                       | %G         | The more compact of %E or %f, with no trailing zeros (Use a precision operator to specify the number of significant digits.)        |
| Characters or strings | %c         | Single character  |
|                       | %s         | Character vector or string array. The type of the output text is the same as the type of formatSpec.                                |



- **Flags**

|     |   |
|-----|---|
| '-' | Left-justify.<br><b>Example:</b> % <b>-</b> 5.2f<br><b>Example:</b> % <b>-</b> 10s  |
| '+' | Always print a sign character (+ or -) for any numeric value.<br><b>Example:</b> % <b>+</b> 5.2f<br>Right-justify text.<br><b>Example:</b> % <b>+</b> 10s   |
| ' ' | Insert a space before the value.<br><b>Example:</b> % 5.2f  |
| '0' | Pad to field width with zeros before the value.<br><b>Example:</b> %05.2f   |
| '#' | Modify selected numeric conversions: <ul style="list-style-type: none"> <li>- For %o, %x, or %X, print 0, 0x, or 0X prefix.</li> <li>- For %f, %e, or %E, print decimal point even when precision is 0.</li> <li>- For %g or %G, do not remove trailing zeros or decimal point.</li> </ul> <b>Example:</b> %#5.0f |

File input/output (I/O)

Run lec08\_b.m

UNH weather data: <http://www.weather.unh.edu/data/2019/255.txt>

File name format: YYYY/DOY.txt

Save/load variables:

[https://www.mathworks.com/help/matlab/matlab\\_env/save-load-and-delete-workspace-variables.html](https://www.mathworks.com/help/matlab/matlab_env/save-load-and-delete-workspace-variables.html)