Output Changes for Lab 4

The biggest output change is that the color of the ball will be printed as a string in most of the places where the program does output.

Contents

Strings

Your program will need to have a function that will return a string when given a color number. Consider an array of strings. Use the following chart to map color numbers to color names. Your strings will not be in all capital letters, just have the first letter capitalized.

```
/* curses basic colors:
 * BLACK   0
 * RED     1
 * GREEN   2
 * YELLOW  3
 * BLUE    4
 * MAGENTA 5
 * CYAN    6
 * WHITE   7
 */
```

Formatting

Use %7s to print the color name. In many of the format strings there is something like %2X to output the bits. Put %7s in front of that with one space between the %7s and the %2X as seen below in the code fragment that prints the score of a ball

```
printf("%7s %02X  %3d points\n",
```

In the main tabular output where there are 4 spaces separating groups, reduce that to 2 in order to keep the lines from overflowing. You don't have to match the reference output in terms of whitespace but it is nicer for the graders. Example output below. See output files for complete examples.

Messages

Retain all existing messages and update them with the color name.

```
Loaded     Red 08 1 ball at   0.00000,   0.00000  45.00000 deg  75.00000 ips
Launched Magenta AC 5 ball at   0.00000,   0.00000 at -19.41143,  72.44444
Left_ wall: Magenta AC  -12.13214  36.08782  -19.41143   43.03660
Right wall: Magenta AC   12.01882   4.42179   17.51881  -67.66021
Upper wall: Magenta AC   -4.95254  48.11123   18.44086   23.24007
Left_ flipper:    Cyan B5   -2.00000   0.08801    0.00000  -90.73520
Right flipper:   White BE    2.00000   0.08801    0.00000  -90.73520
Off table: Magenta AC   10.68096  -0.74346  -16.64287  -67.95318
```

Tabular output

Update for less spacing on the main table and add color name to the regular and final tables.

```
  Color ST   ___X_____ ___Y_____  ___VX____ ____VY____  ET= 0.531250  Score=  38
   Blue A3   -1.70000   0.50089    6.40000  -14.99666
Magenta AC    1.70000   0.50089   -6.40000  -14.99666


The final scores was 72 points:
   Blue A3   17 points
Magenta AC   17 points
   Cyan B5   19 points
  White BE   19 points
```

Diagnostics

See the linked list and unreliable sections for information and examples. The list code gets diagnostics similar to the dynamic memory code for balls.