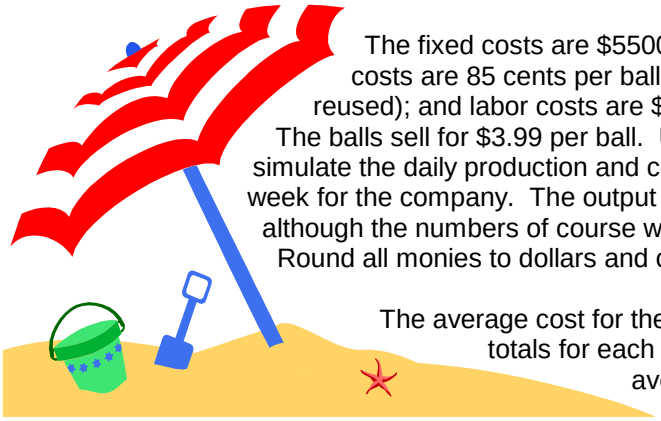
Program 480a

(really cheap beach ball company)

Program Description: The Really Cheap Beach Ball Company produces inflatable beach balls. It produces between 10,000 and 20,000 balls per day. Of these, 2.75% are defective and unsaleable. The average cost of producing a saleable ball is given by the formula

$$Average\ Cost = \frac{Fixed\ Costs + Material\ Costs + Labor\ Costs}{Number\ of\ Saleable\ Units\ per\ Day}$$



The fixed costs are $5500 for insurance, taxes, etc.; the material costs are 85 cents per ball (saleable only, since bad materials can be reused); and labor costs are $1.03 per ball (saleable and unsaleable). The balls sell for $3.99 per ball. Use the random number generator to simulate the daily production and compute the average cost per day and per week for the company. The output should be in the form of the sample, although the numbers of course will vary because of the random numbers. Round all monies to dollars and cents.

The average cost for the week must use the same formula, but the totals for each column will go into the formulas. Do not average the daily averages.

Statements Required: input, output, decision making, loop control, arrays

Sample Output:

Day	Units Produced	Saleable Units Produced	Fixed Costs	Material Costs	Labor Costs	Average Costs
Monday	12895	12541	5500	10659.85	13281.85	2.35
Tuesday	17028	16560	5500	14076.00	17539.84	2.24
Wednesday	14328	13934	5500	11843.90	14757.84	2.30
Thursday	16716	16257	5500	13918.45	17217.48	2.25
Friday	13027	12669	5500	10768.65	13417.81	2.34
Saturday	12401	12060	5500	10251.00	12773.03	2.37
Totals	86395	84021	33000	71417.05	88986.85	2.30