

Name: _____ Section: _____

Practice for Exam2: Fire Hazards

REALISTICALLY – to speed up grading

Is an A realistic? Yes no

My advices:

- Open notes, open labs, open book, open solutions, open ANYTHING but cheating and search engines.
- Testing: not all needs to work to test and prove it. Copy/Paste testing AS YOU GO. Piece by piece. 5pts!
- Code what you can. Skip what you forgot. COMMENT what crashes and hardcode a value instead. Don't stay stuck on something more than 5 minutes. MOVE on, then come back.
- START with the easy stuff... maybe the labels on the plot for example.. COMMENT THEM OUT until ready.
- The wording does NOT have to match mine, but the user needs to understand what's going on.
- RULE: If I didn't teach it, I don't want to see it.

Due to budget cuts, you have not been able to purchase new buckets for your helicopter. Sometimes, the bucket snaps or breaks and you loose all the water you picked up to put out the fire... Oh well... Create a code that keeps track of each volume, displays which trips went bad, and calculates the total volume.

```
** Can you put out this fire ???? **

How many trips will your helicopter make (whole>=3): 0
ERROR: (whole>=3). Try again:
ERROR: (whole>=3). Try again: 1
ERROR: (whole>=3). Try again: 4.4
ERROR: (whole>=3). Try again: 5

HELICOPTER TRIP #1:
  How much water did you pick up? (273.0-9842.0 Liters): 0
  ERROR. 273.0-9842.0 Liters only. Try again:
  ERROR. 273.0-9842.0 Liters only. Try again: 3
  ERROR. 273.0-9842.0 Liters only. Try again: 99999
  ERROR. 273.0-9842.0 Liters only. Try again: 273

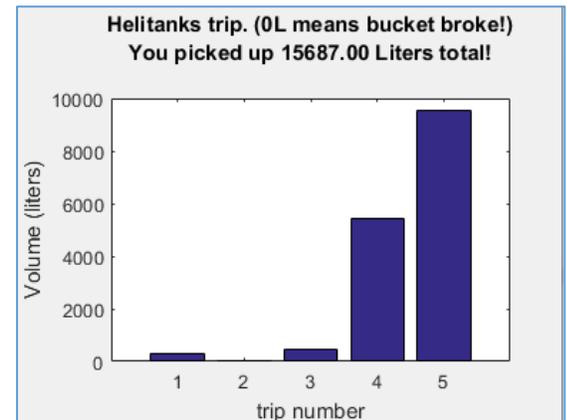
HELICOPTER TRIP #2:
  How much water did you pick up? (273.0-9842.0 Liters): 9842
  UGH. bucket snapped/broke. Go get water again!

HELICOPTER TRIP #3:
  How much water did you pick up? (273.0-9842.0 Liters): 435

HELICOPTER TRIP #4:
  How much water did you pick up? (273.0-9842.0 Liters): 5436

HELICOPTER TRIP #5:
  How much water did you pick up? (273.0-9842.0 Liters): 54432
  ERROR. 273.0-9842.0 Liters only. Try again: 9543

You picked up 15687.00 Liters total!
```



Requirements: the basics from all the labs are expected: 56pts – see back page

The number of trips must be a whole number greater than or equal to 3 (3pts). The code must trap the user when invalid, including empty inputs, and decimals (3+2+2+2pts).

(10pts) Loop to prompt the user for the volume picked up each trip. (Use the loop of your choice).

- (3pts)The helicopter's trip number must display each time
- (3pts) The volume is a decimal between 273 and 9842 liters both included (actual data for possible buckets that exist). Of course, this value can be a decimal! Invalid entries must be caught, including empty ones (3+2+2+2pts).
- Store the entered value into a vector (5pts), so you can create a bar graph. HOWEVER, you must determine if the bucket broke or not first! To determine if the bucket snapped/broke, MATLAB will generate a random integer each time: either a 0 or a 1 (5pts). A 0 will mean the bucket did fine. A 1 will mean the bucket broke. (10pts) If that's the case, store a 0 in the vector instead of the volume entered (3pts), and display a message to the user (see trip#2 above) (3pts).

Calculate the total volume (5pts). Generate the bar graph as shown above (5pts), with all the formatting shown (4pts).

The title shows the total volume, using 2 decimals (5pts).

Name, section, description	3pts
Clean up Commands	3pts
Spacing of code – skip lines	5pts
PROPER indenting	5pts (you can use Ctrl+A+I to indent according to conventions)
Comments/algorithm	5pts
Good variables names	5pts
NO CRASH	5pts
No useless parentheses	5pts
All semi-colons on ALL non-blue lines	5pts
Introduction that the user can read	5pts
HUMAN FACTOR aspect of the output	5pts
Proof of Testing	5pts

All other points within the directions. Please go through and double check. I give partial points on this, NOT EVERYTHING has to work (i.e. comments), but it must run.

BONUS: what are the odds of being born on February 29th? – NO GOOGLE. Approximations are fine. Math process is better.