CS 351 Computer Architecture I **Winter 2021**
Midterm Part II: Take-Home Exam

Due Date: Saturday, February 13th 2021, 2019 11:59pm

You are asked to write a program which does the following:

- reads 10 numbers from the user into an integer array with size 10. You are supposed to use loops to write into the array.
- asks user to enter a number to search
- If the number is found in the array, success message is prompted together with the index of the number.
- If it is not found, then the program gives "Not found" message.
- Assume that there are no duplicates in the array

Write an ARM Assembly program which performs these operations and name it as `numarray.s`

Sample Run:

```
pi@armas:~/workspace $ make clean
rm -vf numarray *.0
removed 'numarray'
pi@armas:~/workspace $ make numarray
as -o numarray.o numarray.s
gcc -o numarray numarray.o
pi@armas:~/workspace $ ./numarray
Enter a number:1
Enter a number:23
Enter a number:54
Enter a number:65
Enter a number:33
Enter a number:76
Enter a number:9
Enter a number:82
Enter a number:12
Enter a number:78
Enter a number to search:76
Number is found at the index 5
```

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How to submit

Please submit your work as a single zip file including the following files

- `numarray.s`
- `Makefile`

Please also use the following file format while naming the zip file:
LastNameFirstname351_Midterm.zip (ex: SerceFatmaCS351_Midterm.zip)

How to grade

- `numarray.s`
  - [90 points]
    - works without error
    - uses loops properly
    - uses arrays properly
    - documented and formatted well
  - [40 points]
    - Generates error at runtime
    - Uses loops/arrays properly
    - Documented and formatted well
  - [0 points]
    - Generates error at runtime
    - loops/arrays are not implemented properly

- `Makefile`
  - [10 points]
    - Works without error
  - [0 point]
    - Generates error