



Week 2: Assignment 3

Parse the Embedded System Output

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Aim

A program written by you gets the input from an embedded systems device (Joystick on a gamepad) through a serial port on your machine. The program generates output in the following format:

1,X!2,Y!3,Z!2.5,0!

where the , denotes a field separator and ! denotes a record separator.

Write an AWK program `assignment3.awk` which takes as an input argument a file of the format specified above and generates the output on command line (*prints the output; not in a file, for the n-th time*) of this format:

Value	SensorNumber
1	X
2	Y
3	Z
2.5	0



Note: The columns are tab separated.

Given

Two files are provided to solve this assignment.

- Skeleton program file: `assignment3.awk`
- Sample TXT file: `assignment3_sample.txt`

Procedure

- Open the skeleton program file, `assignment3.sed`.
- To run and debug your solution, type the below command in Terminal:

```
awk -f assignment3.awk assignment3_sample.txt
```



This command will run the AWK script `assignment3.awk` with the input argument of provided TXT file.

- Here file name is passed as **an argument and not as an input stream**.
 - Refer the **Expected Output** section below and debug your code to get the correct output.
-

Expected Output

- The provided sample TXT file, `assignment3_sample.txt` consists of random data received by an Embedded System.
- For example, the contents of this TXT file are as shown below:

```
10.2,T!435.12,U!94,G!0,F!255.0,P!21,L!
```



- The expected output of program `assignment3.awk` i.e., print the parsed output stating the Values received from each Sensor number as shown below:

Value	SensorNumber
10.2	T
435.12	U
94	G
0	F
255.0	P
21	L



Grading and Submission Instructions



- Navigate to the folder where the *ey-mooc-grader-sfc* application resides.
- To grade your solution, run the `check` command of the application as follows:

```
./ey-mooc-grader-sfc check -w 2 -a 3 Week_2/Assignment_3/assignment3.awk
```



- This will run your program `assignment3.awk` against random test cases and grade it. Marks and appropriate remarks will be provided as shown in Figure 1.
- Your program file `assignment3.awk`, marks scored and remarks will get uploaded to the MOOC portal.

```

erts-09@erts:~/Desktop/SFC_PartI_MOOC
File Edit View Search Terminal Help
~/Desktop/SFC_PartI_MOOC 20:27:50
./ey-mooc-grader-sfc check -w 2 -a 3 Week_2/Assignment_3/assignment3.awk

Course Name: Software Foundation (Part I)

Checking your submission for Week - 2 Assignment number - 3

Checking submission type ...
Submission type is accepted

Downloading test scripts ...
100% [.....] 3000 / 3000
Download complete

Extracting files ...
Extraction complete

#### RESULT ####
+-----+-----+-----+-----+
| TEST CASE NUMBER | TEST CASE PASSED? (Y/N) | MARKS SCORED | REMARKS |
+-----+-----+-----+-----+
| 1 | Y | 5.0 | Good work. |
| 2 | Y | 10.0 | Good work. |
+-----+-----+-----+-----+

REMARKS = Congrats! You have successfully completed the assignment. Keep it up!
MARKS = 10

MARKS AND REMARKS UPLOADED ON THE PORTAL SUCCESSFULLY
  
```

Figure 1: Output of running check command for Week 2 Assignment 3

- You can verify this by running the **status** command of the application as given below, refer Figure 2.

```
./ey-mooc-grader-sfc status -w 2 -a 3
```

```

erts-09@erts:~/Desktop/SFC_PartI_MOOC
File Edit View Search Terminal Help
~/Desktop/SFC_PartI_MOOC 20:28:24
./ey-mooc-grader-sfc status -w 2 -a 3

Course Name: Software Foundation (Part I)

Checking status of your submission for Week - 2 Assignment number - 3

#### LAST RECORDED RESULT ####

REMARKS      : Congrats! You have successfully completed the assignment. Keep it up!
MARKS        : 10
UPLOAD DATE-TIME : 2021-04-03 20:28:04
  
```

Figure 2: Output of running status command for Week 2 Assignment 3

References

- Nano Editor
 - [How to use Nano Text Editor](#)
 - [Nano Editor Official Docs](#)
- Vim Editor
 - [Interactive Vim Tutorial](#)
- AWK
 - [Advanced Bash Scripting Guide](#)

- [AWK: Introduction and Tutorial](#)
 - [Very Useful Command Line Utilities](#)
 - [SED AWK Examples by Unix School](#)
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All The Best!

