

ELP780

Software Lab

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A report presented for the assignment on
Assignment 8 - Python and Github



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1 Problem Statement 1

1.1 Problem Statement

You have a file with the contents of players' names and their scores. Create a programme using Lex(flex) to calculate total runs scored by the players. Also calculate their averages. Sample File Format is as below

Input Format:

./ps1 < input_file >

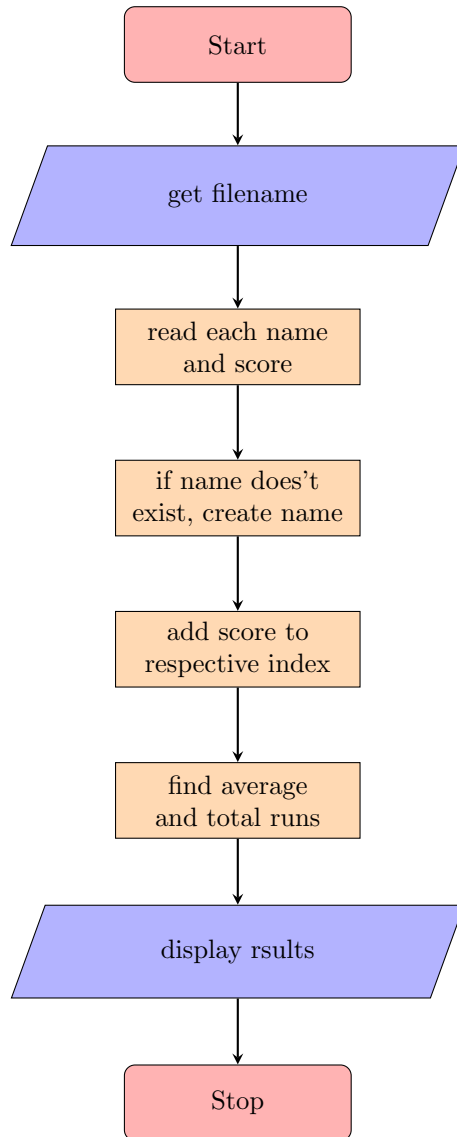
Output Format:

< player_name > < Total_runs > < average >

1.2 PS1 algorithm

- Read filename from user
- read words and numbers separately
- for each new name if name doesn't already exist, add name
- add score for respective name
- calculate sum and average
- display results in the required format

1.3 PS1 Flow Chart



1.4 PS1 Solution-Code

1.5 PS1 Output Screenshots

```
$ make ps1
lex ps1.l
gcc -o ps1.out lex.yy.c
./ps1.out ps1.txt
Rohit 101 50.500000
Virat 200 100.000000
Yuvi 52 52.000000
```

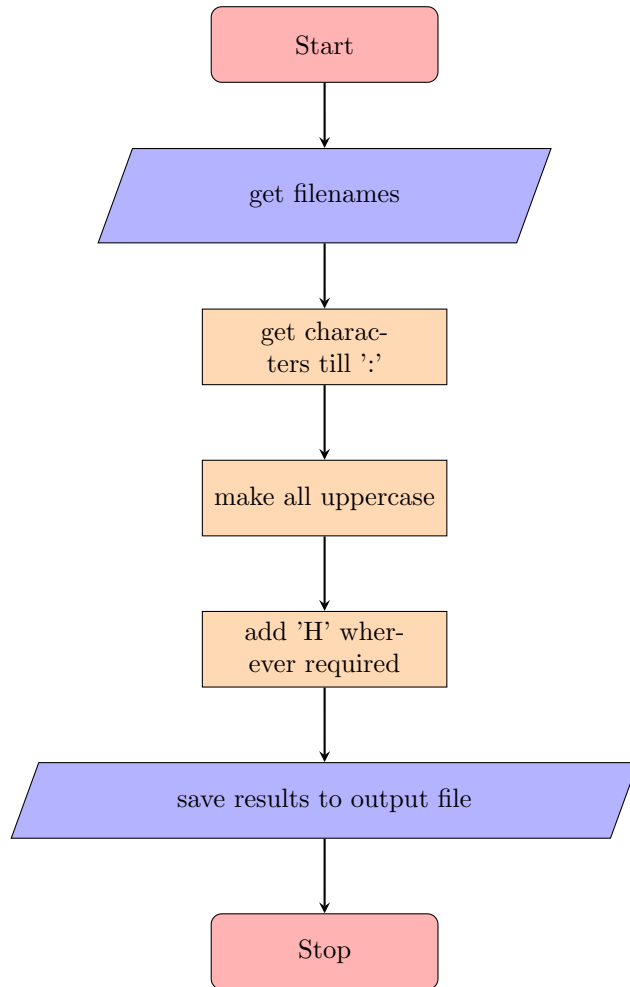
2 Problem Statement 2

A 8085 assembler is designed in a way that it takes input assembly source code instructions in all capital letters and numbers in hexadecimal format suffixed by H. You have to create preprocessor for assembler that will translate any 8085 assembly code into full capital letters and all numerals into hexadecimal format suffixed by H. Use lex(flex) and Yacc(bison).

2.1 PS2 algorithm

- Get filenames from user
- for each line get all characters before colon ':'
- make all uppercase
- add hexadecimal 'H' wherever required
- save result to output file

2.2 PS2 Flow Chart



2.3 PS2 Solution-Code

2.4 PS2 Output

2.4.1 input file

2.4.2 output file

3 makefile

3.1 makefile code

```
all: ps1 ps2
ps1:
python3 ps1.py
ps2:
python3 ps2.py
```

```
# clean:
# rm *.out
```

3.2 makefile output

```
$ make all
lex ps1.l
gcc -o ps1.out lex.yy.c
./ps1.out ps1.txt
Rohit 101 50.500000
Virat 200 100.000000
Yuvi 52 52.000000
# yacc ps2.y
lex ps2.l
# cc lex.yy.c y.tab.c -o ps2.out
gcc -o ps2.out lex.yy.c
ps2.l: In function 'main':
ps2.l:31:30: warning: implicit declaration of function 'toupper' [-Wimplicit-function-declaration]
    }
    ^
./ps2.out ps2.txt output.txt
```

4 GIT

4.1 GIT Commit Screenshots

```
commit 7e5b94319220cb653e124c3478cdc291ac656c86
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 11:15:20 2019 +0530
```

```
test program created for yaac
```

```
commit ff6181ee1be0b8eaaff9eede5cca037673e46e2c
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 10:26:45 2019 +0530
```

```
added comments to PS1
```

```
commit cd567740072a48c352555b58aa2ecc315911356a
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 10:20:28 2019 +0530
```

```
PS1 basic structure created
```

```
commit 4a68b208805773de1eb656dff5b0c7bccafb44b7
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 09:51:29 2019 +0530
```

```
ran a test program
```

```
commit beb6d2a5f7b16c9c6dec389db5bdae450a39257d
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 09:27:31 2019 +0530
```

```
Initial Commit
```

```
commit 7e5b94319220cb653e124c3478cdc291ac656c86
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 11:15:20 2019 +0530
```

```
test program created for yaac
```

```
commit ff6181ee1be0b8eaaff9eede5cca037673e46e2c
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 10:26:45 2019 +0530
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```
ran a test program
```

```
commit beb6d2a5f7b16c9c6dec389db5bdae450a39257d
Author: Aghil Sabu <aghilsabu@gmail.com>
Date:   Wed Sep 11 09:27:31 2019 +0530
```

```
Initial Commit
```