Homework # 2

01286131 Object-Oriented Programming

Software Engineering Program,

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By

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Working with C++ Functions

1. Write a program that read words from standard input and transform those words before printing to output.

1.1) Write the function `unstylize` which is used to remove an enclosing `"*… *"` pairs from a word and complete the program that read words from input and print "unstylize" words to output.

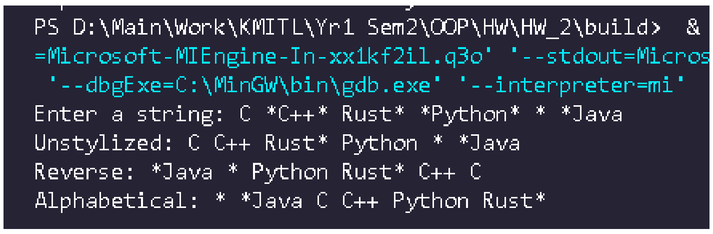
1.2) Modify the program from 1.1) to print words in **reverse order** to output.

1.3) Modify the program from 1.1) to print words in **alphabetical order** to output.

Input	*Output for 1.1)*	*Output for 1.2)*	*Output for 1.3)*

`C *C++* Rust*`
`*Python* * *Java`
	`C C++ Rust*`
	`Python * *Java`
		`*Java * Python`
		`Rust* C++ C`
			`* *Java C C++`
			`Python Rust*`

Output :



```
PS D:\Main\Work\KMITL\Yr1 Sem2\OOP\HW\HW_2\build>  &
=Microsoft-MIEngine-In-xx1kf2il.q3o' '--stdout=Micros
 '--dbgExe=C:\MinGW\bin\gdb.exe' '--interpreter=mi'
Enter a string: C *C++* Rust* *Python* * *Java
Unstylized: C C++ Rust* Python * *Java
Reverse: *Java * Python Rust* C++ C
Alphabetical: * *Java C C++ Python Rust*
```

2. Given the following example score sheet that records scores for every play for each player:

```
Leo 5000 1200 2000 4500
Mike 3800 2400 3200
Raph 1500 2200 1200 4000 4800
Don 5000 1600 3200 4600
May 4400 3300 5800
```

2.1) Write a program that reads and store the player's name with all of his/her scores, then generate the rankings based on **the maximum score** played by each player. The player with higher score has higher rank. On equal rank, order the display by the player name.

2.2) Write additional programs for generating the rankings based on **(1) the minimum score** and **(2) the average score** played by each player. The player with higher score has higher rank. On equal rank, also order the display by the player name.

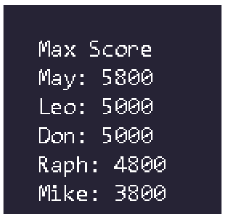
2.3) Partition the program from 2.1) to 2.2) to have **at least** one header file for all utility functions used by the program, one source file for definitions of all utility functions, and one source file for each program.

Create CMakeLists.txt file for the project, configure and build all programs specified in the project. Finally, test the programs by running all of them.

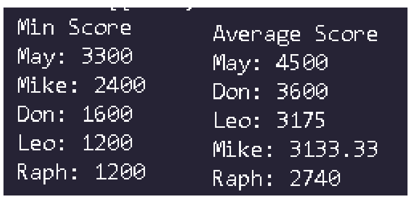
Rankings table generated from programs should be as shown below:

Max Score Rankings	*Min Score Rankings*	*Average Score Rankings*
`1. May  5800 2.`	`1. May  3300`	`1. May  4500 2.`
`Don  5000 3.`	`2. Mike 2400`	`Don  3600`
`Leo  5000`	`3. Don  1600`	`3. Leo  3175`
`4. Raph 4800`	`4. Leo  1200`	`4. Mike 3133.33`
`5. Mike 3800`	`5. Raph 1200`	`5. Raph 2740`

Output :



```
Max Score
May: 5800
Leo: 5000
Don: 5000
Raph: 4800
Mike: 3800
```



```
Min Score          Average Score
May: 3300          May: 4500
Mike: 2400         Don: 3600
Don: 1600          Leo: 3175
Leo: 1200          Mike: 3133.33
Raph: 1200         Raph: 2740
```

3. Given the following SVG image file as a template:

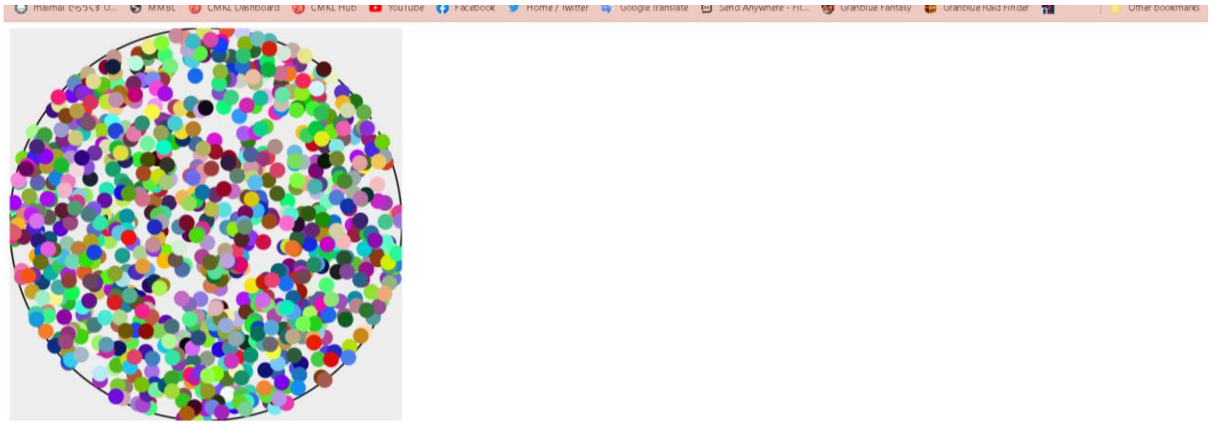
```
<svg width="500" height="500" xmlns="http://www.w3.org/2000/svg">
  <rect width="100%" height="100%"
fill="#EEEEEE" />
  <circle cx="250" cy="250" r="250"
stroke="black" stroke-width="2"
fill="none" />
  <circle cx="250" cy="250" r="10"
fill="#00FFFF" /> </svg>
```

3.1) Write a program that takes the number `N` from user input and use it to generate `N` points $p_i = (x_i, y_i)$ where p_i lies within the unit circle.

3.2) Partition the program from 3.1) to have **at least** one header file for all utility functions used by the program, one source file for definitions of all utility functions, and one source file for the program. **Create CMakeLists.txt** file for the project, configure and build the program. Finally, test the program.

Hint: Use polar coordinate system to ensure that each random point lies within the unit circle.

Advice: Use I/O redirection to save the output to a file for viewing from the browser.



maimai でらっくす U...
MMBL
CMKL Dashboard
CMKL Hub
YouTube
Facebook
Home / Twitter
Google Translate
Send Anywhere - Fil...
Granblue Fantasy
Granblue Raid Finder
Other bookmarks