

# SCALE FOR PROJECT MINISHELL (/PROJECTS/MINISHELL)

## Introduction

Please respect the following rules:

- Remain polite, courteous, respectful and constructive throughout the correction process. The well-being of the community depends on it.
- Identify with the person (or the group) graded the eventual dysfunctions of the work. Take the time to discuss and debate the problems you have identified.
- You must consider that there might be some difference in how your peers might have understood the project's instructions and the scope of its functionalities. Always keep an open mind and grade him/her as honestly as possible. The pedagogy is valid only if the peer-evaluation is conducted seriously.

## Guidelines

- Only grade the work that is in the student or group's GiT repository.
- Double-check that the GiT repository belongs to the student or the group. Ensure that the work is for the relevant project and also check that "git clone" is used in an empty folder.
- Check carefully that no malicious aliases was used to fool you and make you evaluate something other than the content of the official repository.
- To avoid any surprises, carefully check that both the correcting

and the corrected students have reviewed the possible scripts used to facilitate the grading.

- If the correcting student has not completed that particular project yet, it is mandatory for this student to read the entire subject prior to starting the defence.

- Use the flags available on this scale to signal an empty repository, non-functioning program, a norm error, cheating etc. In these cases, the grading is over and the final grade is 0 (or -42 in case of cheating). However, with the exception of cheating, you are encouraged to continue to discuss your work (even if you have not finished it) in order to identify any issues that may have caused this failure and avoid repeating the same mistake in the future.

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## Attachments

 Subject (<https://cdn.intra.42.fr/pdf/pdf/5992/minishell.en.pdf>)

## Mandatory part

*Reminder : Remember that for the duration of the defence, no segfault, nor other unexpected, premature, uncontrolled or unexpected termination of the program, else the final grade is 0. Use the appropriate flag. This rule is active throughout the whole defence.*

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### Author file

Check that the author file is at the root of the repository and formatted as explained in the subject. If not defence the is finished and final grade is 0.

 Yes

 No

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### Memory leaks

Throughout the defence, pay attention to the amount of memory used by minishell (using the command `top` for example) in order to detect any anomalies and ensure that allocated memory is properly freed. If there is one memory leak (or more), the final grade is 0.

 Yes

 No

## Fork and execve

"fork" et "execve" form the basis of a minimalist shell like the minishell. Therefore, those functions should be used in the code. Otherwise, it means that the instructions were misunderstood.

Defence is finished and final grade is 0. The only way to succeed this project is to use the list of authorized functions. There is no other solution.

Execute the following 4 tests:

- Run minishell, then run the following command "\$> foo". It must fail with a proper error message and then give back the prompt.

- Run the following command "\$> /bin/ls". ls must be properly executed and then give back the prompt.

- Run the following command "\$> /bin/ls -laF". ls must be properly executed with the -l, -a, -F flags and then give back the prompt.

- Run the following command "\$> /bin/ls -l -a -F". ls must be properly executed with the -l, -a, -F flags and then give back the prompt.

If at least one fails, no points will be awarded for this section. Move to the next one.

✓ Yes

✗ No

## Builtins

In this section we'll evaluate the implementation of built-ins such as "exit", "echo" et "cd". A shell needs to include these basic features, even if it sounds prehistoric to you,

Execute the following 8 tests:

- Run minishell, then run the following command "\$> exit". The program must terminate properly and give back the parent's shell. Run the minishell again.

- Run a command such as "\$> echo "It works"". The message must be properly displayed.

- Run a command such as "\$> echo It works" (without the double quotes). The message must be properly displayed.

- Run a command such as "\$> cd /absolute/path/of/your/choice", then run the following command "\$> /bin/pwd". /bin/pwd must confirm that the current folder was updated.

- Run a command such as "\$> cd relative/path/of/your/choice", then run the following command "\$> /bin/pwd". /bin/pwd must confirm that the current folder was updated.

- Run the following command "\$> cd", then run "\$> /bin/pwd". /bin/pwd must confirm that the current folder is the user's home folder.

- Run the following command "\$> cd -", then run "\$> /bin/pwd". /bin/pwd must confirm that the current folder is the folder relative/path/of/your/choice used before.

- Run the following command "\$> cd ~/path/of/your/choice", then run "\$> /bin/pwd". /bin/pwd must confirm that the current folder was updated.

If at least one fails, no points will be awarded for this section. Move to the next one.

 Yes

 No

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## Environment management

In this section we'll evaluate the implementation of specific built-ins such as "env", "setenv" et "unsetenv".

Execute the following 7 tests:

- Run the following command "\$> env". Environment variables must be displayed as key=value.

- Run a command such as "\$> setenv FOO bar" or "\$> setenv FOO=bar" depending on the implemented syntax. Then run the following command "\$> env". The environment must display a FOO variable with the value bar.

- Run the following command "\$> echo \$FOO". The value bar must be displayed.

- Run the following command "\$> /usr/bin/env". Minishell must send the appropriate environment to ran binaries. /usr/bin/env must display environment including FOO and its value bar.

- Run the following command "\$> unsetenv FOO". Then run "\$> env". The environment variable FOO must not be displayed anymore.

- Run the following command again "\$> unsetenv FOO". Then run "\$> env". Environment must not change.

- Run the following command again "\$> /usr/bin/env". /usr/bin/env must not display variable FOO anymore.()

If at least one fails, no points will be awarded for this section. Move to the next one.

 Yes

 No

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### **PATH management**

In this section we'll evaluate the implementation of PATH in your shell.

Execute the following 6 tests:

- Run the following command "\$> unsetenv PATH", then run "\$> setenv PATH "/bin:/usr/bin" or "\$> setenv "PATH=/bin:/usr/bin" depending on the implemented syntax. Then run the following command "\$> ls". /bin/ls must be properly executed.

- Run the following command "\$> emacs". /usr/bin/emacs must be properly executed.

- Run the following command "\$> unsetenv PATH", then run "\$> ls". It must fail.

- Run now the following command "\$> emacs". It must also fail.

- Run the following command "\$> /bin/l\$". /bin/l\$ must be properly executed.

- Run the following command "\$> /usr/bin/emacs". /usr/bin/emacs must be properly executed.

If at least one fails, no points will be awarded for this section. Move to the next one.

☒ Yes

☐ No

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### Command line management

In this section we'll evaluate the command line management.

Execute the following 4 tests:

- Run an empty command "\$> ". The shell must do nothing and give back the prompt.

- Run a command made of just a single space "\$> ". The shell must do nothing and give back the prompt.

- Run a command made of spaces and tabulations. The shell must do nothing and give back the prompt.

- Run a command made of spaces and tabulations before and after its named and between its parameters such as "\$> /bin/l\$ -l -A". All those spaces and tabulations musn't interfere with the command's execution.

If at least one fails, no points will be awarded for this section. Move to the next one.

☒ Yes

☐ No

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## Bonus

*Reminder : Remember that for the duration of the defence, no segfault, nor other unexpected, premature, uncontrolled or unexpected termination of the program, else the final grade is 0. Use the appropriate flag. This rule is active throughout the whole defence. We will look at your bonuses if and only if your mandatory part is EXCELLENT. This means that you must complete the mandatory part, beginning to end, and your error management must be flawless, even in cases of twisted or bad usage. So if the mandatory part didn't score all the point during this defence bonuses will be totally IGNORED.*

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## Signal

In this section we'll evaluate signal management and more specifically Ctrl-C.

Execute the following 3 tests:

- Instead of typing a command press Ctrl-C. The shell must just give back the prompt
- Type a random command but instead of running it press Ctrl-C. The minishell must give back an empty prompt.
- Run the following command "\$> cat", then when cat waits for inputs on the standard input, press Ctrl-C. The minishell must kill cat's process and give back the prompt.

If at least one fails, no points will be awarded for this section. Move to the next one.

✓ Yes

✗ No

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## PATH's rights

In this section we'll evaluate PATH's rights management.

Execute the following test:

- Create a new folder /tmp/bin/ and add this folder to the PATH environment variable. Create a program named 'test\_exec\_rights' inside that folder that will just display 'KO'. Give this program the following rights 644 (meaning no execution rights). From another folder, run the following command "\$> test\_exec\_rights". Check that the minishell refuses to run the program because of the missing execution rights.

If it fails, no points will be awarded for this section. Move to the next one.

✓ Yes

✗ No

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### Auto-completion

In this section we'll evaluate auto-completion.

Execute the following 2 tests:

- Type the following beginning of command "\$> ec", then press tabulation. The minishell must complete the command into "\$> echo".

- Type the following beginning of command "\$> ema", then press tabulation. The minishell must complete the command into "\$> emacs".

If at least one fails, no points will be awarded for this section. Move to the next one.

✓ Yes

✗ No

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### Semi colon

In this section we'll evaluate semi colon management. Allowing the user to run 2 commands, separated by a semi colon, in a row.

Execute the following 2 tests:

- Run the following command "\$> echo TOP ; ls ; echo MIDDLE ; ls ; echo BOTTOM". The 5 commands must be executed without any errors in the order they were written.

- Run the following command "\$> ;". The minishell must either do nothing and give the prompt back or display a syntax error and give the prompt back.

If at least one fails, no points will be awarded for this section. Move to the next one.



✓ Yes

✗ No

### Other features

If the project has other operational bonuses, you can evaluate them and grade them in this section.



Rate it from 0 (failed) through 5 (excellent)

## Ratings

Don't forget to check the flag corresponding to the defense

✓ Ok

📄 Empty work

📄 Incomplete work

💬 No author file

🧑 Invalid compilation

📖 Norme

💻 Cheat

💣 Crash

💧 Leaks

🚫 Forbidden function

## Conclusion

Leave a comment on this evaluation

Preview!!!