official repository.

- To avoid any surprises, carefully check that both the evaluating and the evaluated students have reviewed the possible scripts used to facilitate the grading.
- If the evaluating 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.
- Remember that for the duration of the defence, no segfault, no other unexpected, premature, uncontrolled or unexpected termination of the program, else the final grade is 0. Use the appropriate flag.

You should never have to edit any file except the configuration file if it exists. If you want to edit a file, take the time to explicit the reasons with the evaluated student and make sure both of you are okay with this.

- You must also verify the absence of memory leaks. Any memory allocated on the heap must be properly freed before the end of execution.

You are allowed to use any of the different tools available on the computer, such as leaks, valgrind, or e\_fence. In case of memory leaks, tick the appropriate flag.

# **Attachments**

subject.pdf (https://cdn.intra.42.fr/pdf/pdf/11276/en.subject.pdf)

# **Mandatory Part**

### **Simple Command**

- Execute a simple command with an absolute path like /bin/ls or any other command without options

✓ Yes

 $\times$ No

### **Arguments**

- Execute a simple command with an absolute path like /bin/ls or any other command with arguments but without quotes and double quotes
- Repeat multiple times with different commands and arguments

✓ Yes

 $\times$ No

### echo

- Execute the echo command with or without arguments or options
- Repeat multiple times with different arguments

✓ Yes

 $\times$ No

### exit

- Execute exit command with or without arguments
- Repeat multiple times with different arguments
- Don't forget to relaunch the minishell

✓ Yes

 $\times$ No

# Return value of a process

- Execute a simple command with absolute path like /bin/ls or any other command with arguments but without quotes and double quotes then execute echo \$?
- Check the printed value. You can repeat the same in bash and compare it.
- Repeat multiple times with different commands and arguments, use some failing commands like '/bin/ls filethatdoesntexist'

✓ Yes

 $\times$ No

# Semicolons

- Execute multiple simple commands with absolute path with arguments but separate them with semicolons
- Repeat multiple times with different commands and don't forget to try with or without whitespaces around the semicolons

✓ Yes

 $\times$ No

### Signals

- Try ctrl-C in an empty prompt
- Try ctrl-\ in an empty prompt
- Try ctrl-D in an empty prompt
- Try ctrl-C in a prompt after you wrote some stuff
- Try ctrl-D in a prompt after you wrote some stuff
- Try ctrl-\ in a prompt after you wrote some stuff
- Try ctrl-C after running a blocking command like cat or grep without arguments
- Try ctrl-\ after running a blocking command like cat or grep without arguments
- Try ctrl-D after running a blocking command like cat or grep without arguments
- Repeat multiple times with different commands

✓ Yes

 $\times$ No

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- Execute a simple command with absolute path with arguments but this time double quotes (you should include whitespaces and semicolons in the quotes)
- Think about empty arguments or a weird use of '\'
- Do not try multiline strings

✓ Yes

 $\times$ No

### env

- Check if env shows you the current environment variables

✓ Yes

 $\times$ No

### export

- Export environment variables, create new ones and replace old ones
- Check them with env

 $\times$ No

### unset

- Export environment variables, create new ones and replace old ones
- Use unset to remove some of them
- Check the result with env

✓ Yes

 $\times$ No

# **Environment Variables**

- Execute echo with some \$ variables as arguments
- Check if double quotes around \$ variables is working correctly (like in bash)

✓ Yes

 $\times$ No

### $\mathsf{cd}$

- Use the command cd to move the working directory and check if you are in the right directory with /bin/ls
- Repeat multiple times with working and not working cd
- try '.' '..' as arguments too

✓ Yes

 $\times$ No

### pwd

- Use the command pwd
- Repeat multiple times in multiple directories

⊗ Yes	×No

### **Relative Path**

- Execute commands but this time use a relative path
- Repeat multiple times in multiple directories with complex relative path (lots of ..)



 $\times$ No

### **Environment Path**

- Execute commands but this time without any path. (Is, wc, awk etc...)
- Unset the \$PATH and check if it is not working anymore
- Set the \$PATH to a multiple directory value (directory1:directory2) and check that directories are checked in order from left to right



 $\times$ No

### **Simple Quotes**

- Execute commands with simple quotes as argument
- Try empty arguments
- Try environment variables, whitespaces and semicolons in the simple quotes



 $\times$ No

### Redirection

- Execute commands with redirections < and/or >
- Repeat multiple times with different commands and arguments and sometimes change > with >>
- Check if multiple of the same redirections fail



 $\times$ No

### **Pipes**

- Execute commands with pipes like 'cat file | grep bla | more'
- Repeat multiple times with different commands and arguments
- Try some failing commands like 'Is filethatdoesntexist | grep bla | more'
- Try to mix pipes and redirections.



 $\times$ No

# **Go Crazy**

- Execute commands that should not work like 'dsbksdgbksdghsd' and check if the shell doesn't crash and prints an error
- Try to execute a really really long command with a ton of arguments

- Have fun with that beautiful minishell and enjoy it							

# **Bonus**

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 you didn't score all the points on the mandatory part during this defence bonuses will be totally ignored.

### double left redirection

- Check if << is working fine



 $\times$ No

 $\times$ No

## Line editing

- Can we move the cursor left and right and edit the line by inserting or deleting characters at cursor location
- Can we navigate through history with up and down
- Can we copy paste all/part of a line using a key sequence
- Can we move word by word with ctrl+left or ctrl+right
- Go directly to the beginning or the end of the line with home or end
- Write and edit commands with multilines

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

### And, Or

- Use &&, | | and parenthesis with commands and check if it works like bash
- For each working flag give 1 point
- If all flags are working give 1 bonus point



 $\times$ No

### WildCard

- Use wildcards in arguments
- Try things like \*/\*
- Go crazy with wildcards



 $\times$ No

# Ratings Don't forget to check the flag corresponding to the defense ✓ Ok ★ Outstanding project ★ Double of the defense The project of the flag corresponding to the defense ★ Outstanding project ★ Outstanding project ★ Crash ★ Double of the project Forbidden function Conclusion Leave a comment on this evaluation Finish evaluation

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