Homework Week #8

(20 total points)

Using what you’ve learned so far in the course, specifically during week8, answer the following questions.

Question 1. (1 point) The **ampersand** symbol allows you to put a program into the background.

Question 2. (3 points) The following is/are valid signals that can be sent to a process:

1. **SIGHUP**
2. **SIGKILL**
3. SIGNON
4. **15**
5. SIGOFF

Question 3. (1 point) A process with a nice value of -5 has a better chance of accessing the CPU, than the same process with a nice value of 5. True or False. **True.**

Question 4. (2 points) Explain the use case for functions in a shell script.

**The use case allows for a person to easily check conditions. After checking the condition, then processing a command-line if that the condition evaluates to true.**

Question 5. (2 points) What is the difference between the functionality of the at and cron commands?

**The at command allows for the user to specify a time when the system will run a script while the cron command will allow for the user to schedule jobs that need to run on a regular basis.**

Question 6. (1 point) What is significant about the recursive nature of functions?

**The significance in recursive nature of functions is It often allows for simplistic algorithmic solutions to certain problems that would otherwise be unobtainable with an iterative algorithm.**

Question 7. (4 points) Review the function below and answer the questions below. Function **mycp** when called copies the file named in the first argument to the file named by the second argument.

1. function mycp () {
2. case $# in
3. 0)
4. exec 3<&0 4<&1
5. ;;
6. 1)
7. exec 3< $1 4<&1
8. ;;
9. 2)
10. exec 3< $1 4> $2
11. ;;
12. \*)
13. echo "Usage: mycp [source [dest]]"
14. return 1
15. ;;
16. esac 17.

18. cat <&3 >&4

19.

1. exec 3<&- 4<&-
2. }

* 1. What happens if you supply one argument?

**The function copies the file named by the argument to standard output.**

* 1. What happens if you supply no arguments?

**The function copies standard input to standard output.**

* 1. Explain what is happening in line 18.

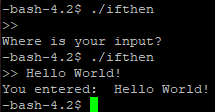
**This line calls the cat command with input coming from the file descriptor 3 and output goes to the file descriptor 4.**

* 1. Explain what is happening in line 20.

**This line the file descriptor 3 and file descriptor 4 are closed.**

Question 8. (4 points) Write a script named **ifthen** that prompts the user with **>>** and reads a string of text from the user. If the user enters a nonnull string, the script displays **You entered:** followed by the string; otherwise it displays **Where is your input?**. Use an **if...then...else** control structure to implement the two-way branch in the script. Use a test to determine if the user enters a null string. What do you have to do to avoid getting an error message when you prompt with **>>**?

**Deliverables:**

1. **Submit your results for both null and nonnull test cases in your homework doc.**  ****
2. **Submit your answer to the question regarding >> in your homework doc also.**

To avoid getting an error message when you prompt with >>, the character >> needs to be put in between double quotes.

1. **Submit your script using the copy command to */home/jalcorn/Submissions/Spring2020/hw\_week8/* using the format *lastname\_hww8***