**FINAL EXAM FALL 2012 CIS239DL LINUX SCRIPTING**

**Multiple Choice**

*Identify the letter of the choice that best completes the statement or answers the question.*

\_\_\_\_ 1. Which of the following symbols is used to redirect standard input?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | << | c. | < |
| b. | > | d. | 2& |

\_\_\_\_ 2. What is the file permission number for write?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 1 | c. | 3 |
| b. | 2 | d. | 4 |

\_\_\_\_ 3. What is the term used to describe the execution of one command at a time?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | sequential | c. | redirection |
| b. | looping | d. | expansion |

ls

pwd

who

date

\_\_\_\_ 4. In the above shell script, which command will be executed after the pwd command?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ls | c. | who |
| b. | pwd | d. | date |

\_\_\_\_ 5. In the above shell script, which command will be executed before the pwd command?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ls | c. | who |
| b. | pwd | d. | date |

\_\_\_\_ 6. Which of the following tr options will will squeeze repeats?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | -t | c. | -s |
| b. | -d | d. | -r |

\_\_\_\_ 7. What can you do to protect a variable from being changed?

|  |  |
| --- | --- |
| a. | Make it readonly |
| b. | Change the permissions on the file the variable is located in |
| c. | Spawn a subshell |
| d. | Comment it out |

\_\_\_\_ 8. What option of the read command would be used to enter a password that you did not want to display on the screen?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | -a | c. | -t |
| b. | -s | d. | -p |

\_\_\_\_ 9. Which command be used to show the value of a variable named first during debugging?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | show first | c. | set -d first |
| b. | echo $first | d. | declare first |

\_\_\_\_ 10. Which of the following can be used to create an interactive script?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | read | c. | set |
| b. | $1 | d. | echo |

\_\_\_\_ 11. In the script execution ShowIt hello 5 bye, what is $2?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ShowIt | c. | 5 |
| b. | hello | d. | bye |

\_\_\_\_ 12. What would you enter if you wanted to add the directory name /Testing to the current search path?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | PATH=$PATH;/Testing | c. | PATH=$PATH:/Testing |
| b. | PATH=PATH:/Testing | d. | path=$path:/testing |

\_\_\_\_ 13. Which of the following would reference the Bourne Shell in a script?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | #!/bin/bash | c. | #!/bin/csh |
| b. | #!/bin/sh | d. | #!/usr/bin/ksh |

\_\_\_\_ 14. Which of the following would reference the C Shell in a script?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | #!/bin/bash | c. | #!/bin/csh |
| b. | #!/bin/sh | d. | #!/usr/bin/ksh |

((x=2))

((z=4))

((y=(3\*$x)/2))

if [ $x –le $y ]

then

echo $x $y

else

echo $y $x

fi

\_\_\_\_ 15. Refer to the code above. What will be displayed?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 2 and then 3 | c. | 3 and then 2 |
| b. | 2 and then 2 | d. | 4 |

((x=2))

((z=4))

((y=(3\*$x)/2))

if [ $x –ge $y ]

then

echo $x $y

else

echo $y $x

fi

\_\_\_\_ 16. Refer to the code above. What will be displayed?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 2 and then 3 | c. | 3 and then 2 |
| b. | 2 and then 2 | d. | 4 |

((x=5))

((y=10))

if [[ $x –eq 5 && $y –gt 12 ]]

then

echo “Hello”

else

echo “Bye”

fi

\_\_\_\_ 17. Refer to the code above. What will be displayed?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | Hello | c. | There is a syntax error. |
| b. | Bye | d. | There is a logic error. |

((x=5))

((y=10))

if [ $x –eq 5 && $y –gt 12 ]]

then

echo “Hello”

else

echo “Bye”

fi

\_\_\_\_ 18. Refer to the code above. What will occur?

|  |  |
| --- | --- |
| a. | Hello will be displayed. |
| b. | Bye will be displayed. |
| c. | An error will be displayed because there is not terminating fi. |
| d. | An error will be displayed because there is a missing square bracket. |

\_\_\_\_ 19. What is the terminating clause for the whole case statement?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ;; | c. | fi |
| b. | esac | d. | elif |

\_\_\_\_ 20. Which symbol is not used to represent a programming activity?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | oval | c. | square |
| b. | diamond | d. | trapezoid |

mmaguire is the user logged in

if [[ $HOME == “/mmaguire” ]]

then

echo “red.”

elif [[ $dirname == “/home/mmaguire” ]]

then

echo “white.”

else

echo “blue.”

fi

\_\_\_\_ 21. Refer to the code above. What will occur if you change directory locations to / prior this code being executed?

|  |  |
| --- | --- |
| a. | The text “white.” will be displayed. |
| b. | The text “blue.” will be displayed. |
| c. | The text “red.” will be displayed. |
| d. | An error message will be displayed due to a syntax error. |

dirname=pwd

if [[ $dirname = “/” ]]

then

echo “You are in the root directory.”

elif [[ $dirname = “/tmp” ]]

then

echo “You are in /tmp.”

else

echo “You are in neither root nor /tmp.”

fi

\_\_\_\_ 22. Refer to the code above. What will occur if you change directory locations to /tmp prior this code being executed?

|  |  |
| --- | --- |
| a. | The text “You are in the root directory.” will be displayed. |
| b. | The text “You are in /tmp.” will be displayed. |
| c. | The text “You are in neither root nor /tmp.” will be displayed. |
| d. | An error message will be displayed due to a syntax error. |

james scores a 62 on the CIS239 final and the value is stored in a variable called score

if [[ $score -ge 66 ]]

then

echo “James got an A.”

elif [[ $score =ge 33 ]]

then

echo “James got a B.”

else

echo “James got less than a B.”

fi

\_\_\_\_ 23. Refer to the code above. What will occur?

|  |  |
| --- | --- |
| a. | The text “James got an A.” will be displayed. |
| b. | The text “James got a B.” will be displayed. |
| c. | The text “James got less than a B.” will be displayed. |
| d. | An error message will be displayed due to a syntax error. |

Randy runs the following command:

dayofweek=`date +%d`

if [[ $dayofweek == “Tue” ]]

then

echo “Today is $dayofweek 10.”

elif [[ $dayofweek == “Mon” ]]

then

echo “Today is $dayofweek 11.”

else

echo “Today is $dayofweek 10.”

fi

\_\_\_\_ 24. Refer to the code above. What will occur if you change directory locations to your home directory prior this code being executed?

|  |  |
| --- | --- |
| a. | The text “Today is Tue 10.” will be displayed. |
| b. | The text “Today is Tue 11.” will be displayed. |
| c. | The text “Today is 10 10.” will be displayed. |
| d. | An error message will be displayed due to a syntax error. |

\_\_\_\_ 25. When using a case statement, which of the following would test for the range of uppercase letters?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | [A-Z] | c. | A-Z\* |
| b. | (A-Z) | d. | A-Z\* |

\_\_\_\_ 26. What term is used when a condition causes statements to be repeated?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | pass | c. | decision |
| b. | loop | d. | flowchart |

\_\_\_\_ 27. What term refers a single passage through a loop?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | iteration | c. | decision |
| b. | script | d. | flowchart |

\_\_\_\_ 28. Which of the following is a disadvantage of a in infinite loop?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | it consumes excessive CPU time | c. | it uses the TCP/IP protocol |
| b. | it consumes very little CPU time | d. | it consumes excessive screen space |

for ((num=1 ; num <=5; num++))

do

echo $num

done

\_\_\_\_ 29. Given the above code, how many iterations will occur?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 0 | c. | 4 |
| b. | 1 | d. | 5 |

for ((num=1 ; num <5; num++))

do

echo $num

done

\_\_\_\_ 30. Given the above code, how many iterations will occur?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 1 | c. | 5 |
| b. | 4 | d. | None because there is an error. |

for letter in l t m

do

echo $letter

done

\_\_\_\_ 31. Given the above code, what will display?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | The letters l, t and m | c. | The letters m, t and l |
| b. | Just the letter m | d. | Nothing because there is an error |

((z=5))

((b=$z))

((t=$b - 4))

while [[ $t -le 3 ]]

do

echo “JAM”

done

\_\_\_\_ 32. Given the above code, what will happen?

|  |  |
| --- | --- |
| a. | The text JAM will display once only |
| b. | The text JAM will display three times only |
| c. | The text JAM will not display |
| d. | The text JAM will display twice only |

((z=5))

((b=$z))

((t=$b - 4))

while [[ $z -le 3 ]]

do

echo “JAM”

done

\_\_\_\_ 33. Given the above code, what will happen?

|  |  |
| --- | --- |
| a. | The text JAM will display once only |
| b. | The text JAM will display three times only |
| c. | The text JAM will not display |
| d. | The text JAM will display twice only |

((z=5))

((b=$z))

((t=$b - 4))

while [ $t -ge 3 ]]

do

echo “JAM”

done

\_\_\_\_ 34. Given the above code, what will happen?

|  |  |
| --- | --- |
| a. | The text JAM will display once only |
| b. | The text JAM will display three times only |
| c. | The text JAM will not display because there is a syntax error |
| d. | The text JAM will display twice only |

\_\_\_\_ 35. Which statement will perform statements if the exit status of the condition or list it is evaluating is 0?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | while | c. | case |
| b. | until | d. | if |

\_\_\_\_ 36. Which statement will perform statements if the exit status of the condition or list it is evaluating is 1?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | while | c. | case |
| b. | until | d. | if |

for x do 1 2 3

in

echo x

done

\_\_\_\_ 37. Given the above code, what will occur?

|  |  |
| --- | --- |
| a. | The numbers from 1 to 3 will be displayed |
| b. | Nothing, there is an error |
| c. | The numbers from 3 to 1 will be displayed |
| d. | The letter x will be displayed 3 times |

for i in 1 2 3

do

for j in 1 2

do

echo $i, $j

done

done

\_\_\_\_ 38. Given the above nested for loops, what will display?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 1, 1  1, 2  2, 1  2, 2  3, 1  3, 2 | c. | 1, 1  1, 2  1, 3  2, 1  2, 2  2, 3  3, 1  3, 2  2, 3 |
| b. | An error message. | d. | 1, 1  2, 1  1, 2  2, 2  3, 1  2, 3 |

for i in 1 2 3

do

for j in 1 2

do

echo $j, i

done

\_\_\_\_ 39. Given the above nested for loops, what will display?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 1, 1  1, 2  2, 1  2, 2  3, 1  3, 2 | c. | 1, 1  1, 2  1, 3  2, 1  2, 2  2, 3  3, 1  3, 2  2, 3 |
| b. | An error message. | d. | 1, 1  2, 1  1, 2  2, 2  1, 3  2, 3 |

\_\_\_\_ 40. What decision is made in the theoretical for loop?

|  |  |
| --- | --- |
| a. | Whether or not to initialize the starting variable |
| b. | Whether or not to increment the variable |
| c. | A comparison of the variable and an ending value |
| d. | Whether or not to decrement the starting variable |

\_\_\_\_ 41. Which of the following is a set of statements that can be used to perform a specific task?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | array | c. | loop |
| b. | function | d. | flowchart |

\_\_\_\_ 42. What is defined as the process of breaking a program into manageable parts?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | functionality | c. | modularity |
| b. | reusability | d. | flowcharting |

function PrintChecks( ) {

# Statements to print checks.

}

\_\_\_\_ 43. Given the above code, how would you pass name, address, and pay to the function?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | PrintChecks name, address, pay | c. | PrintChecks $name $address $pay |
| b. | PrintChecks $name, $address, $pay | d. | Printchecks $name $address $pay |

T[0]=5

T[1]=4

T[2]=10

\_\_\_\_ 44. Given the above statements, what will be displayed with this statement: echo ${T[4 - 2]} ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 2 | c. | 10 |
| b. | 4 | d. | 20 |

T[0]=5

T[1]=4

T[2]=10

T[3]=6

T[4]=8

\_\_\_\_ 45. Given the above statements, what will be displayed with this statement: echo ${T[1 + 2]} ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 6 | c. | 10 |
| b. | 4 | d. | 20 |

\_\_\_\_ 46. Given the above statements, what will be displayed with this statement: echo ${T[1 + 3 - 2]} ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 6 | c. | 10 |
| b. | 4 | d. | 20 |

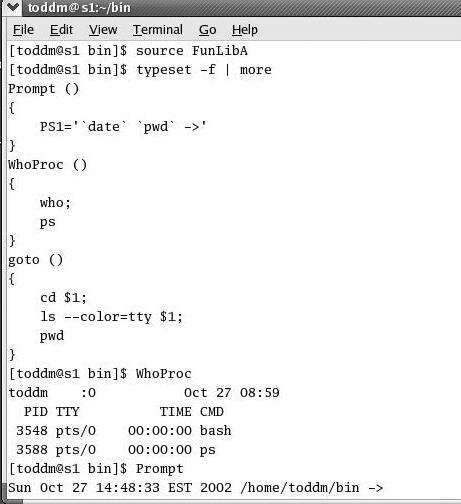
Product=(1:”Toy Car”:5.00 2:”Toy Boat”:10.00 3:”Blocks”:3.50)

\_\_\_\_ 47. Given the above array, which of the following will store the second field of the record for the record for “Blocks” into ProdName? Note each record consists of an ID, Name, and price.

|  |  |
| --- | --- |
| a. | ProdName=`echo ${Product[3]} | cut -d: -f2` |
| b. | ProdName=`echo ${Product[1]} | cut -d: -f2` |
| c. | ProdName=`echo ${Product[3]} | cut -d: -f1` |
| d. | ProdName=`echo ${Product[2]} | cut -d: -f2` |

\_\_\_\_ 48. What is the term used when a variable is given to a function?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | iteration | c. | reusability |
| b. | passed | d. | looped |



\_\_\_\_ 49. In the above figure, why can WhoProc be executed from the command line successfully?

|  |  |
| --- | --- |
| a. | Because it is a Linux builtin command |
| b. | Because it is located in a directory in the PATH |
| c. | Because it is a script located in /usr/local/bin |
| d. | Because it is a function declared in a function library |

\_\_\_\_ 50. How would you allow a function, named PayChecks, to be used by subshells?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | spawn PayChecks | c. | export -f PayChecks |
| b. | export PayChecks | d. | source PayChecks |

**FINAL EXAM FALL 2012 CIS239DL LINUX SCRIPTING**

**Answer Section**

**MULTIPLE CHOICE**

1. ANS: C REF: 168

2. ANS: B REF: 166

3. ANS: A REF: 162

4. ANS: C REF: 163

5. ANS: A REF: 163

6. ANS: C REF: 191

7. ANS: A REF: 189

8. ANS: B REF: 188

9. ANS: B REF: 192

10. ANS: A REF: 187

11. ANS: C REF: 176

12. ANS: C REF: 169

13. ANS: B REF: 171

14. ANS: C REF: 171

15. ANS: A REF: 240-241

16. ANS: C REF: 240-241

17. ANS: B REF: 240-241

18. ANS: D REF: 240-241

19. ANS: B REF: 233

20. ANS: D REF: 206

21. ANS: A REF: 226

22. ANS: D REF: 226

23. ANS: B REF: 226

24. ANS: D REF: 226

25. ANS: A REF: 233

26. ANS: B REF: 254

27. ANS: A REF: 254

28. ANS: A REF: 256

29. ANS: D REF: 273-279

30. ANS: B REF: 273-279

31. ANS: A REF: 273-279

32. ANS: B REF: 273-279

33. ANS: C REF: 273-279

34. ANS: C REF: 273-279

35. ANS: A REF: 286

36. ANS: B REF: 286

37. ANS: B REF: 275

38. ANS: A REF: 280-281

39. ANS: D REF: 280-281

40. ANS: C REF: 274

41. ANS: B REF: 296

42. ANS: C REF: 297

43. ANS: C REF: 305

44. ANS: C REF: 324-325

45. ANS: A REF: 324-325

46. ANS: C REF: 324-325

47. ANS: D REF: 328-330

48. ANS: B REF: 304

49. ANS: D REF: 315-316

50. ANS: C REF: 314