SSN COLLEGE OF ENGINEERING, KALAVAKKAM
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
8 : Control Flow , Loops , Functions and Arrays

Excerise 1. (conditional Statements)

1. If cost price and selling price of an item is input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit was made or loss incurred.

2. Write a shell script to validate password strength. Here are a few assumptions for the password string.
- Length – minimum of 8 characters.
- Contain both alphabet and number.
- Include both the small and capital case letters.

If the password doesn't satisfy with any of the above conditions, then the script should print it as a "Weak Password"

3. Write a script that prints essentially the same information as ls -l a but in a more user- friendly way.
(a) file exists or not
(b) regular file?
(c) directory?
(d) readable?
(e) writable?
(f) executable?
(g) owner
Print suitable messages.
Rewrite the above script as a shell function finfo and call the function with a filename.

Excerise 2 (loops)

1. Write a program to generate all combinations of digits 1, 2 and 3 to form different numbers using for loops.
2. Use seq with for statement to print the multiplication table.
3. Write a shell script to check whether a given string is a palindrome or not
4. Write a shell script to compute 'm' to the power of a positive integer 'n', i.e. m^n (while loop)
5. Write a script that attempts to copy a file to a directory and, if it fails, waits 5 seconds and then tries again continuing until it succeeds. (Use Until statement).
6. Write a menu based program to copy a given file, to remove the specified file and to move a file.

Excerise 3 (function)

1.Write shell script to read a text file name and count the number of lines using function. Pass the file name as an argument to the function. Return the number of lines and print it

2. Write a shell script to count the number of occurrences of given word in the file. (Note: File name and word to be passed as an argument to the script).

3. Anna University converts the marks in an exam to letter grades according to the following table. Write a shell script to translate the marks of a student in a semester into letter grades.

1. Mark range	Grade points	Letter grade
91-100	10	S
81-90	9	A
71-80	8	B
61-70	7	C
57-60	6	D
51-56	5	E
< 50	0	U

Exercise 4

1. Write a shell script that prints 5 command line arguments. What happens if we pass fewer than 5 arguments?

2. Change the value of a positional parameter. Did you succeed?

Excerise 5.

1. Develop an interactive script to maintain a database of employees. The database is in the format

employee_name	rate_per_hour	hours_worked
Beth	4.00	0
Dan	3.75	0
Kathy	4.00	10
Mark	5.00	20
Mary	5.50	22
Susie	4.25	18

The script should allow users to
1. List the records
2. Search for an employee
3. Modify the hours_worked of an employee whose existing hours_worked is equal to 0.
4. Delete an employee
5. Quit

2. Create an array by assignment of prices for five different fruits with fruit name as key and price as value.

a. Display the all the key.
b. Display the values.
c. Display the key value pair.

d. Remove the third fruit.
e. Add one new fruit.
f. Calculate the total cost of all fruits and display the amount.
g. Delete the all items and display

Excerise 6.

1. Write a function that allows the user to select a directory from the list of directories. Move the selected directory to the first position of the list. (Using select statement).

2. Write a shell script to translate the contents of a file into Upper case, Lower case, title case and print not valid case when invalid argument passed where file name is entered through command line.(use select case)