

Lab Sheet 4: Shell Programming

Read User Input

To read the Bash user input, we use the built-in Bash command called **read**. It takes input from the user and assigns it to the variable. It reads only a single line from the Bash shell.

Syntax

```
read <variable_name>
```

Example

```
#!/bin/bash
echo "Enter first name and last name"
read first_name last_name
echo "Hello $first_name $last_name"
```

Command Line Arguments

You can pass input value as command line argument

Arguments passed to a script are processed in the same order in which they're sent. The indexing of the arguments starts at one, and the first argument can be accessed inside the script using `$1`. Similarly, the second argument can be accessed using `$2`, and so on. The positional parameter refers to this representation of the arguments using their position. For example consider a program named 'example.sh'

```
echo "Name: $1"
```

```
echo "Age: $2"
```

You can pass value when you are invoking the script in the following way.

```
$ ./example.sh John 12
```

The variable `$@` is the array of all the input parameters.

Questions

~~1. Write a shell script to generate emails in the given format and write it into a file. Your script should accept sender and recipient email id's and subject as command line arguments.~~

~~From: abc@domain1.com To: xx@domain.com Cc: yy@domain.com~~

~~Subject: Subject 1~~

~~This email is generated by my shell script.~~

~~Thanks and regards~~

~~S4 CSE student~~

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~~2. Modify Question 1 to allow user to enter text at the beginning of email content, by passing it as a command line argument.~~

~~3. Write a shell script to print all the primes below a given number.~~

~~4. Write a shell script to print the first n Fibonacci numbers.~~

~~5. Write a shell script to generate a multiplication table.~~

~~a. Interactive version: The program should accept an integer n given by the user and should print the multiplication table of that n.~~

b. Command line arguments version: The program should take the value of n from the arguments followed by the command.

~~c. Redirection version: The value of n must be taken from a file using input redirection.~~

6. Using function write a shell script to find gcd of two numbers.

7. Using Recursion find factorial of a number

8. Write shell script to show various system configuration like:

a. Currently logged user and his long name

b. Current shell

c. Home directory

d. Operating system type

e. Current path setting

f. Current working directory

g. All available shells