1. **Processing Environment**

**1.5** Write the program to use fork/vfork system call and assign process to work as a shell. OR Read commands from standard input and execute them. Comment on the feature of this programe

**Objectives:**

1. To learn about Processing Environment.

2. To know the difference between fork/vfork and various execs variations.

3. Use of system call to write effective programs.

**Theory:**

## Name:

system - execute a shell command

## Synopsis:

#include <[stdlib.h](https://linux.die.net/include/stdlib.h)>

int system(const char \*command);

## Description:

system() executes a command specified in command by calling /bin/sh -c command, and returns after the command has been completed. During execution of the command, SIGCHLD will be blocked, and SIGINT and SIGQUIT will be ignored.

## Return Value:

The value returned is -1 on error (e.g., [fork](https://linux.die.net/man/2/fork)(2) failed), and the return status of the command otherwise. This latter return status is in the format specified in [wait](https://linux.die.net/man/2/wait)(2). Thus, the exit code of the command will be WEXITSTATUS(status). In case /bin/sh could not be executed, the exit status will be that of a command that does exit(127).

If the value of command is NULL, system() returns nonzero if the shell is available, and zero if not.

system() does not affect the wait status of any other children.

**Data Dictionary:**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr Number | Variable/Function | Datatype | Use |
|  |  |  |  |
| 1 | str | char[] | Input command. |

Table 1.5 Data Dictonary

**Program:**

#include<stdio.h>

#include<stdlib.h>

#include<unistd.h>

int main()

{

char str[100];

printf("Input command\n");

scanf("%[^\n]%\*c", str);

printf("Thank you\n");

}

**Output:**

Input command

history

sh: 1: history: not found

Thank you

Input command

sudo apt install fortune

[sudo] password for it:

Reading package lists... Done

Building dependency tree

Reading state information... Done

Note, selecting 'fortune-mod' instead of 'fortune'

fortune-mod is already the newest version (1:1.99.1-7).

0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.

Thank you

Input command

fortune

Your present plans will be successful.

Thank you

**Conclusion:**

1. system() can be used to perform various shell commands when the commandsare read from standard input. The output of shell is printed.

**References:**

[1]www.tutorialspoint.com/unix\_system\_calls/