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Bash Script: Read One Character At A Time

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I need to count one character at a time from input.txt. How do I read one character at a time under Linux / UNIX bash shell script?

The read builtin can read one character at a time and syntax is as follows:



[1]

```
read -n 1 c
echo $c
```

You can setup the [while loop](#) ^[2] as follows:

```
#!/bin/bash
# data file
INPUT=/path/to/input.txt

# while loop
while IFS= read -r -n1 char
do
    # display one character at a time
    echo "$char"
done < "$INPUT"
```

Example: Letter frequency counter shell script

```
#!/bin/bash
INPUT="$1"
# counter
a=0
b=0
cc=0

# Make sure file name supplied
[ $# -eq 0 ] && { echo "Usage: $0 filename"; exit 1; }

# Make sure file exists else die
[ ! -f $INPUT ] && { echo "$0: file $INPUT not found."; exit 2; }

# the while loop, read one char at a time
while IFS= read -r -n1 c
do
    # counter letter a, b, c
    [ "$c" == "a" ] && (( a++ ))
    [ "$c" == "b" ] && (( b++ ))
    [ "$c" == "c" ] && (( cc++ ))
done < "$INPUT"

echo "Letter counter stats:"
echo "a = $a"
echo "b = $b"
echo "c = $cc"
```

Run it as follows:

```
/tmp/readch /etc/passwd
```

Sample outputs:

```
Letter counter stats:  
a = 169  
b = 104  
c = 39
```

See also:

- [Getting User Input Via Keyboard](#) ^[3]
- [Shell Script Utility To Read a File Line By Line](#) ^[4]

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[1] Image: <http://www.cyberciti.biz/faq/category/bash-shell/>

[2] while loop: http://bash.cyberciti.biz/guide/While_loop

[3] Getting User Input Via Keyboard: http://bash.cyberciti.biz/guide/Getting_User_Input_Via_Keyboard

[4] Shell Script Utility To Read a File Line By Line: <http://www.cyberciti.biz/faq/read-a-file-line-by-line-using-awk/>

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