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# Zayadur Khan    02/21/18    CIS-341    Assignment 1
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.data
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string:      .space 1024
reverse:     .space 1024
prompt:      .ascii "Enter your string: "
original:    .ascii "Your string was: "
reversed:    .ascii "The reversed string is: "
```

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.text
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main:
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```
    # prompt user for a string
    li $v0, 4
    la $a0, prompt
    syscall
```

```
    li $v0, 8                # read string
    la $a0, string           # store string
    li $a1, 1024
    syscall
```

```
    # store length of string
    la $t0, string           # address
    li $t2, 0                # length
```

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forLoop:
    lb $t1, ($t0)
    beq $t1, 0, end_forLoop
    add $t2, $t2, 1           # increment length
    add $t0, $t0, 1           # next string location
    b forLoop
end_forLoop:
```

```
    # reverse the string
    li $t0, 0
```

```
reverseLoop:
    blt $t2, 1, end_reverseLoop # if less than 1, exit loop
    sub $t2, $t2, 1             # decrement by 1
    lb $t1, string($t2)
    sb $t1, reverse($t0)
    add $t0, $t0, 1             # reverse indices
    b reverseLoop
```

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end_reverseLoop:

li $t1, 0
sb $t1, reverse($t0)

# display results
li $v0, 4
la $a0, original          # original prompt
syscall

li $v0, 4
la $a0, string            # original string
syscall

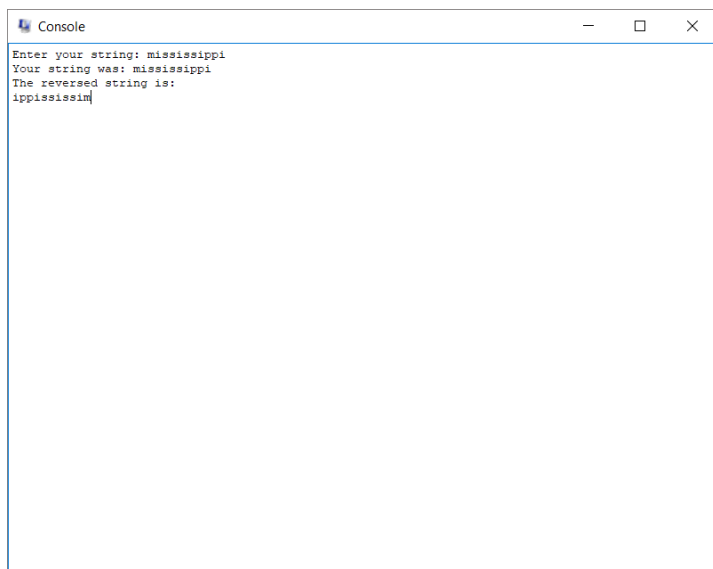
# print reversed string
li $v0, 4
la $a0, reversed          # reversed prompt
syscall

li $v0, 4
la $a0, reverse           # print reversed string
syscall

# exit program
li $v0, 10
syscall

```

Output for test input: “mississippi”



```

Console
Enter your string: mississippi
Your string was: mississippi
The reversed string is:
ipississim

```