

```
#####
# Samuel Wait, CS 2318-254, Assignment 2 Part 1 Program B
#####
# prompt user to enter an integer in the range [0, 63], read the integer,
# and display if the integer is of type 1 ( <= 31 ) or 0 ( > 31 )
##### data segment #####

typeLegend:
inputPrompt:
outputLabel:
##### code segment #####

main:

.data
.asciiz "1 for <=31, 0 for >31\n"
.asciiz "Enter integer between 0 and 63 (inclusive): "
.asciiz "Integer entered is of type "

.text
.globl main

li $v0, 4
la $a0, typeLegend
syscall # print type legend
la $a0, inputPrompt
syscall # print input prompt
li $v0, 5
syscall # read integer
move $v1, $v0 # save integer read in $v1
li $v0, 11
li $a0, '\n'
li $v0, 4
la $a0, outputLabel
syscall # print output label

li $v0, 1

#####
# Insert NO MORE THAN 4 lines of code that involve ONLY
# bit manipulating instructions (ANDing, ORing, XORing,
# NORing and shifting - only whatever that are needed)
# so that the program will work just like the sample runs
# shown at the bottom (some blank lines edited out).
# HINT: Risking telling the obvious, the instructions you
# insert are to cause the content of $a0 to become
# the desive value (1 or 0) when printed as integer.
# You MUST test your completed program for AT LEAST the
# test cases shown (and include the result in hardcopy).
#####

srl $a0,$v1, 5 #shift right by 5 bits to divide the value by 10
andi $a0, $a0, 1 #use and to test the bit to see the value
xori $a0, $a0, 1 #use xor to show the interger type
syscall # display desired output

#####

li $v0, 10 # exit gracefully
syscall

##### sample test runs #####
# 1 for <=31, 0 for >31
# Enter integer between 0 and 63 (inclusive): 0
# Integer entered is of type 1
# -- program is finished running --
#
# Reset: reset completed.
#
# 1 for <=31, 0 for >31
# Enter integer between 0 and 63 (inclusive): 31
# Integer entered is of type 1
# -- program is finished running --
#
# Reset: reset completed.
#
# 1 for <=31, 0 for >31
# Enter integer between 0 and 63 (inclusive): 32
# Integer entered is of type 0
# -- program is finished running --
#
# Reset: reset completed.
#
# 1 for <=31, 0 for >31
# Enter integer between 0 and 63 (inclusive): 63
# Integer entered is of type 0
# -- program is finished running --
##### end sample test runs #####

##### Test Run Results #####
1 for <=31, 0 for >31
Enter integer between 0 and 63 (inclusive): 0
Integer entered is of type 1
-- program is finished running --

Reset: reset completed.

1 for <=31, 0 for >31
Enter integer between 0 and 63 (inclusive): 31
Integer entered is of type 1
-- program is finished running --

Reset: reset completed.

1 for <=31, 0 for >31
Enter integer between 0 and 63 (inclusive): 32
Integer entered is of type 0
-- program is finished running --

Reset: reset completed.

1 for <=31, 0 for >31
Enter integer between 0 and 63 (inclusive): 63
Integer entered is of type 0
-- program is finished running --
```