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#!/bin/sh
#Question:
# Write a shell script to accept a integer from the terminal and check if its a
#   palindrome. A number is palindrome if the reverse of the number turns out to
#   be the same number. 12321, whose reverse is 12321, which is the original
#   number, is a palindrome. Number 12345 is not a palindrom as its reverse is
#   54321 ≠ original number.

# Always write assumptions made, either as comment or as description
# and keep the rough work, do not erase it out

#   accept a integer from the terminal

echo "Enter an integer: "
read num

# Content can be reversed using command rev ,   reverse lines characterwise
#   As the datatype is decided during run, loosely typed programming language
#   use rev to find reverse of number num, considering num as string

#   Its shell script, use $ to get value of variable ,
#   enclose in backquote `` to imply its commands and not just string

reverse=` echo $num | rev `

echo "$num is "
if [ $num = $reverse ] # string comparision using = , instead of == as in C
then
    echo "a palindrome"
else
    echo "not a palindrome"
fi

# or using while loop , consider num as number, find reverse,
#   then compare with original

reverse=0      #initialize reverse
temp=$num      #save num in another variable

while [ $temp -ne 0 ]
do
    # escape * and use of ` expr ` to evaluate
    reverse=` expr $reverse \* 10  +  $temp % 10 ` # extract last digit
    # and add to existing reverse
    temp=` expr $temp / 10 ` # remove last digit
done

echo "$num is "
if [ $num = $reverse ] # string comparision using = , instead of == as in C
then
    echo "a palindrome"
else
    echo "not a palindrome"
fi

```