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#!/bin/sh
#Question:
# Write a shell program to accept a positive integer n from the terminal and
#   print n th Fibonacci number. A number in Fibonacci series is expressed as
#   sum of its previous two numbers.
#       fibonacci(n) = fibonacci(n-1) + fibonacci(n-2)
#       given fibonacci(1) = 0 and
#       fibonacci(2) = 1

# 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 a positive integer n: "
read n

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

fibonacci1=0          # fibonacci(1) = 0
fibonacci2=1          # fibonacci(2) = 1
nextFibonacci=""

echo "The $n fibonacci number is: "
if [ $n -eq 1 ]      # fibonacci(1) = 0
then
    echo "$fibonacci1"
elif [ $n -eq 2 ]    # fibonacci(2) = 1
then
    echo "$fibonacci2"
else
    # fibonacci(n) = fibonacci(n-1) + fibonacci(n-2), and since 1st two
    i=3 # fibonacci numbers are 0 and 1, so start from next, i.e.
    while [ $i -le $n ] # 3rd number till the n th number, from i = 3 till n
    do
        nextFibonacci=`expr $fibonacci1 + $fibonacci2 `
        fibonacci1=$fibonacci2
        fibonacci2=$nextFibonacci
        i=`expr $i + 1 `
    done
    echo "$nextFibonacci"
fi

```