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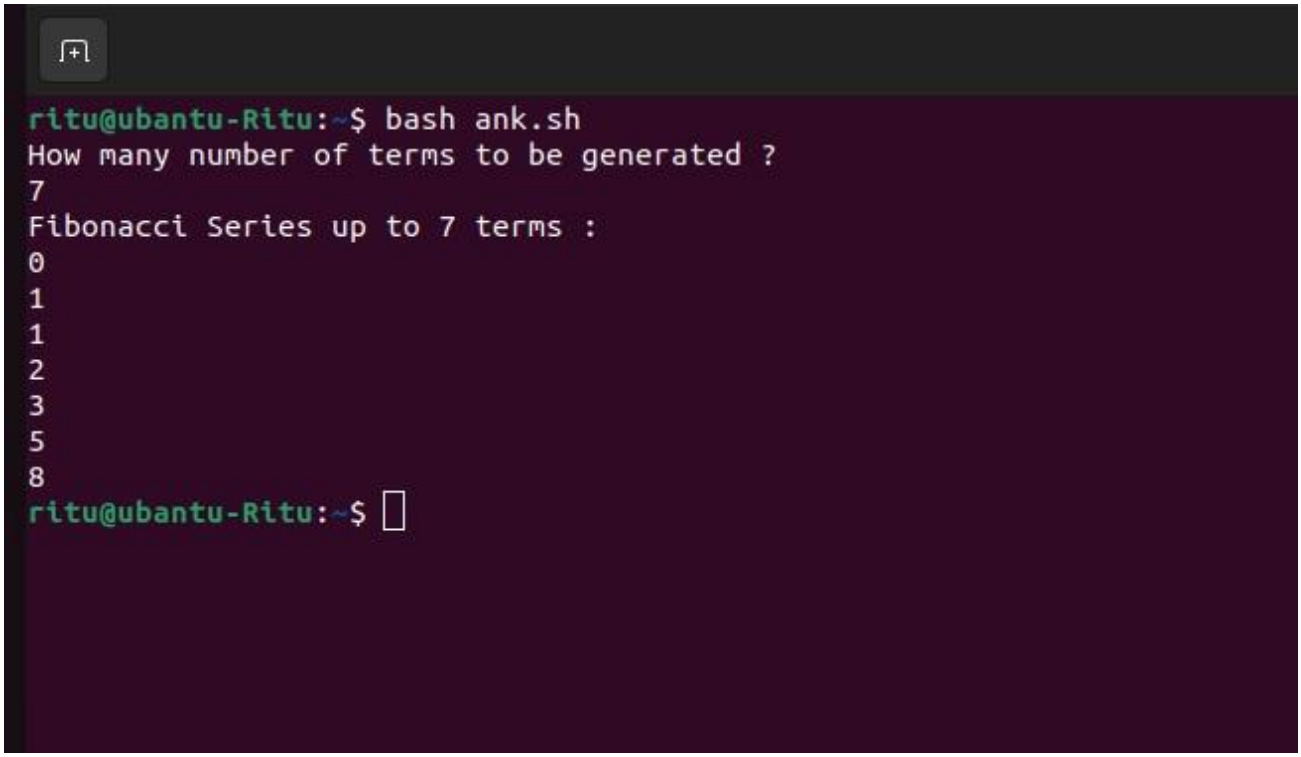
Batch: A3

Q1. *a) Shell script to print Fibonacci series*

```
echo "How many number of terms to be generated ?"
read n
function fibonacci
{
  x=0
  y=1
  i=2
  echo "Fibonacci Series up to $n terms :"
  echo "$x"
  echo "$y"
  # -lt stands for equal to
  while [ $i -lt $n ]
  do
      i=`expr $i + 1 `
      z=`expr $x + $y `
      echo "$z"
      x=$y
      y=$z
  done
}
r=`fibonacci $n`
echo "$r"
```



b) Shell script to find the factorial of a number using recursion

```bash
#!/bin/bash
#Recursive factorial function
factorial()
{
local=$1
if((local<=2)); then
echo $local
else
f=$((local -1))
#Recursive call
f=$(factorial $f)
f=$((f*local))
echo $f
fi
}
#main script
read -p "Enter the number:" n
if((n==0)); then
echo 1
else
#calling factorial function
factorial $n
fi

```