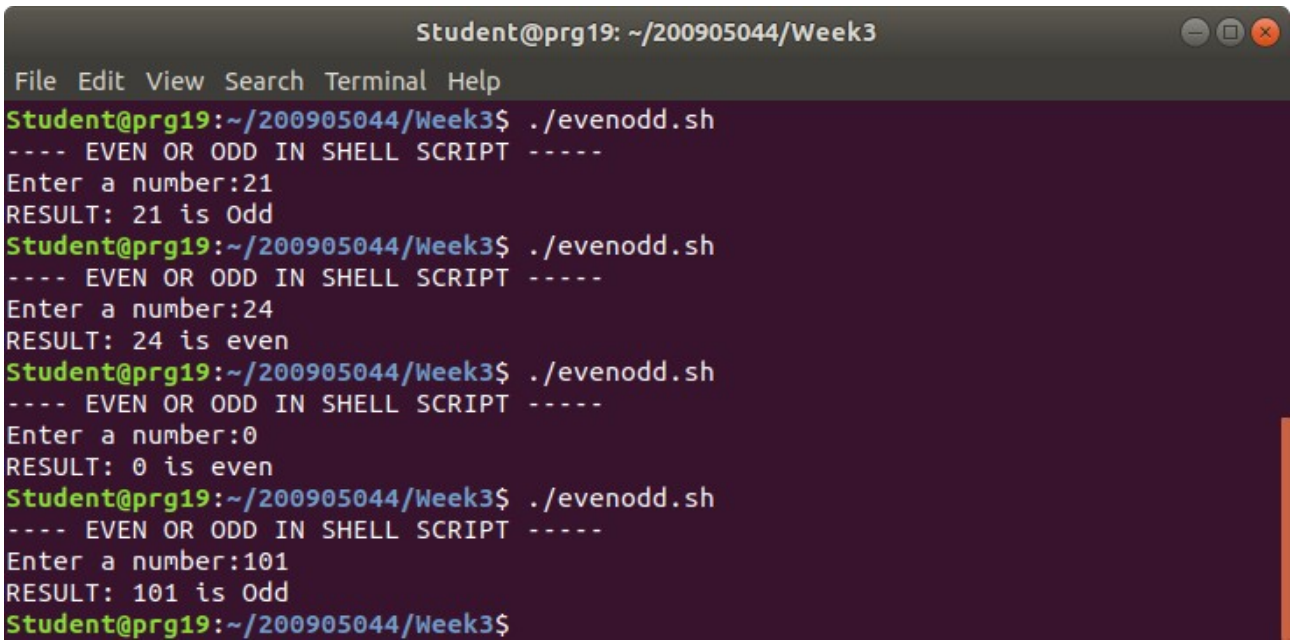
OST LAB

LAB 3 ASSIGNMENT SUBMISSION

1. **Find whether the given number is even or odd.**

```
echo "---- EVEN OR ODD IN SHELL SCRIPT -----"
echo -n "Enter a number:"
read n
echo -n "RESULT: "
if [ `expr $n % 2` == 0 ]
then
 echo "$n is even"
else
 echo "$n is Odd"
fi
```



2. **Print the first 'n' odd numbers.**

```
echo Enter n value as range to print odd numbers.
read n
i=1
while [ $i -le $n ]
do
if [ ! `expr $i % 2` -eq 0 ]
then
  echo $i
fi
i=`expr $i + 1`
done
```

Open ▾ | oddnums.sh ~/200905044/Week3 | Save

```
echo Enter n value as range to print odd numbers.
read n
i=1
while [ $i -le $n ]
do
if [ ! `expr $i % 2` -eq 0 ]
then
  echo $i
fi
i=`expr $i + 1`
done
```

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```
Student@prg19:~/200905044/Week3$ gedit oddnums.sh
Student@prg19:~/200905044/Week3$ chmod +x oddnums.sh
Student@prg19:~/200905044/Week3$ ./oddnums.sh
Enter n value as range to print odd numbers.
20
1
3
5
7
9
11
13
15
17
19
Student@prg19:~/200905044/Week3$ ./oddnums.sh
Enter n value as range to print odd numbers.
5
1
3
5
Student@prg19:~/200905044/Week3$
```

3. **Find all the possible quadratic equation roots using case.**

```
echo Enter the coefficient of x^2:
read a
echo Enter the coefficient of x:
read b
echo Enter the constant term:
read c
```

```
f=`echo "-($b)" |bc`
p=`expr 2 \* $a`
if [ $a -ne 0 ]
then
   d=`echo \( \( $b \* $b \) - \( 4 \* $a \* $c \) \) | bc`
   if [ $d -lt 0 ]
   then
      x=`echo "-($d)" | bc`
      s=`echo "scale=2; sqrt ( $x )" | bc`
      echo The first root is:
      echo "($f + $s i) / $p"
      echo The second root is:
      echo "($f - $s i) / $p"

   elif [ $d -eq 0 ]
   then
      res=`expr $f / $p`
      echo The root is: $res
   else
      s=`echo "scale=2; sqrt( $d )" | bc`
      res1=`echo "scale=2; ( $f + $s) / ( $p )"|bc`
      res2=`echo "scale=2; ( $f - $s) / ( $p )"|bc`
      echo The first root is: $res1
      echo The second root is: $res2
   fi
else
   echo Coefficient of x^2 can not be 0.
fi
```

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```
echo Enter the coefficient of x^2:
read a
echo Enter the coefficient of x:
read b
echo Enter the constant term:
read c
f=`echo "-($b)" |bc`
p=`expr 2 \* $a`
if [ $a -ne 0 ]
then
    d=`echo \( \( $b \* $b \) - \( 4 \* $a \* $c \) \) | bc`
    if [ $d -lt 0 ]
    then
        x=`echo "-($d)" | bc`
        s=`echo "scale=2; sqrt ( $x )" | bc`
        echo The first root is:
        echo "($f + $s i) / $p"
        echo The second root is:
        echo "($f - $s i) / $p"

    elif [ $d -eq 0 ]
    then
        res=`expr $f / $p`
        echo The root is: $res
    else
        s=`echo "scale=2; sqrt( $d )" | bc`
        res1=`echo "scale=2; ( $f + $s) / ( $p )"|bc`
        res2=`echo "scale=2; ( $f - $s) / ( $p )"|bc`
        echo The first root is: $res1
        echo The second root is: $res2
    fi
else
    echo Coefficient of x^2 can not be 0.
fi
```

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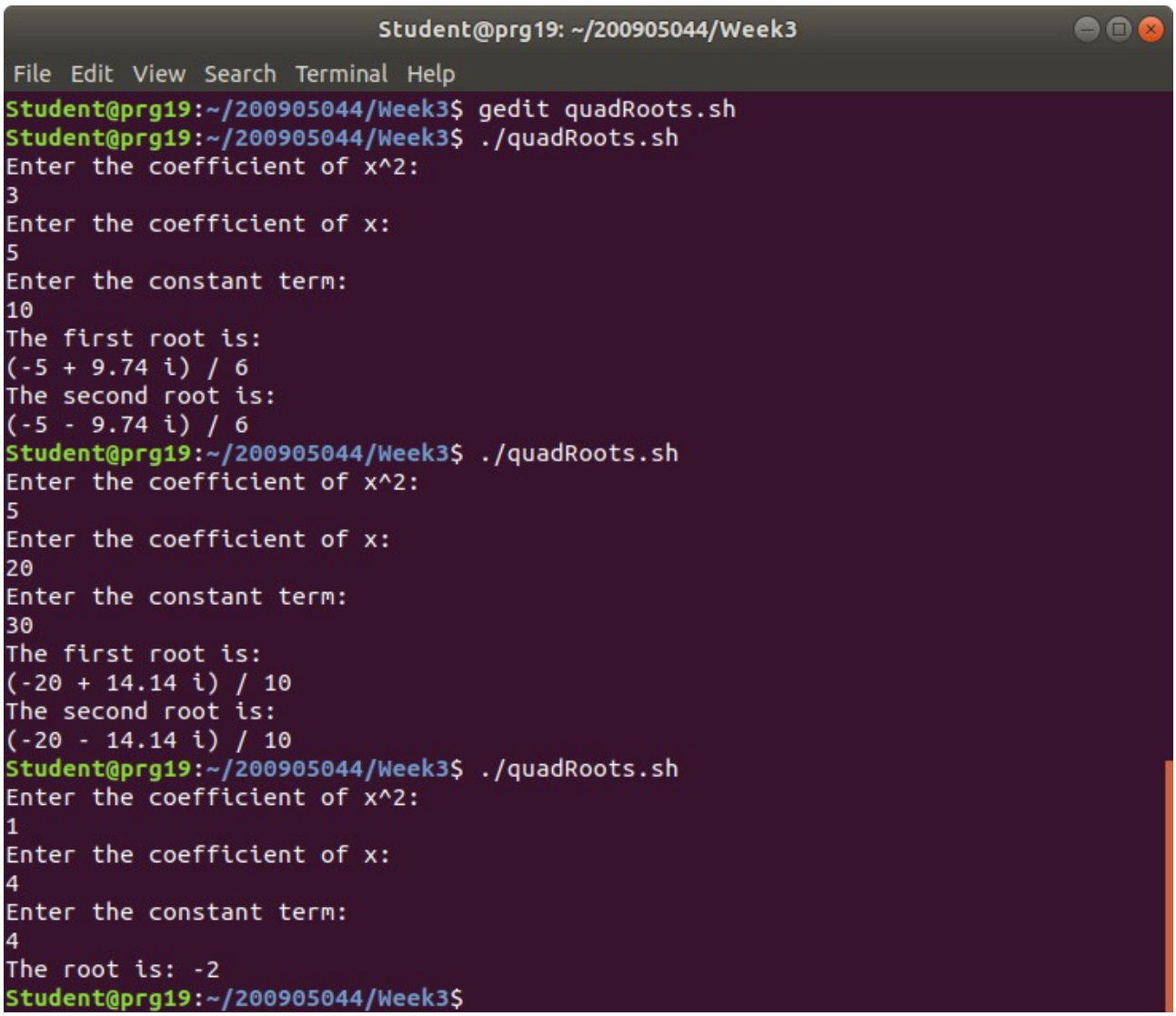

4. **Find the factorial of a given number.**

```
echo "Enter a number:"
read num
fact=1
while [ $num -gt 1 ]
do
        fact=$((fact * num))  #fact = fact * num
        num=$((num – 1))     #num = num – 1

done
echo $fact
```

Open ▾ | factorial.sh ~/200905044/Week3 | Save

```
echo "Enter a number:"
read num
fact=1
while [ $num -gt 1 ]
do
        fact=$((fact * num))  #fact = fact * num
        num=$((num - 1))      #num = num - 1
done
echo $fact
```

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File Edit View Search Terminal Help

```
Student@prg19:~/200905044/Week3$ gedit factorial.sh
Student@prg19:~/200905044/Week3$ chmod +x factorial.sh
Student@prg19:~/200905044/Week3$ ./factorial.sh
Enter a number:
5
120
Student@prg19:~/200905044/Week3$ ./factorial.sh
Enter a number:
10
3628800
Student@prg19:~/200905044/Week3$ ./factorial.sh
Enter a number:
15
1307674368000
Student@prg19:~/200905044/Week3$ ./factorial.sh
Enter a number:
0
1
Student@prg19:~/200905044/Week3$
```

THANK YOU!