

OS Lab02

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Question 1

Write a shell script to input two integer numbers and perform all its arithmetic operations

Solution

```
#!/bin/bash

echo "Enter first number"
read A

echo "Enter second number"
read B

# addition
resA=`echo $A + $B | bc`

# subtraction
resS=`echo $A - $B | bc`

# multiplication
resM=`echo $A \* $B | bc`

# division
resD=`echo $A \/ $B | bc`

echo "Addition: $resA"
echo "Subtraction: $resS"
echo "Multiplication: $resM"
echo "Division: $resD"
```

Output

```
→ Lab04 git:(master) cd ../Lab03
→ Lab03 git:(master) ./Q1.sh
Enter first number
23
Enter second number
34
Addition: 57
Subtraction: -11
Multiplication: 782
Division: 0
```

Question 2

Program write a shell script to input time in seconds and find out how many hours and minutes and seconds are there

Solution

```
#!/bin/bash

echo "Enter seconds"
read seconds

hrs=`expr $seconds \/ 3600`

seconds=`expr $seconds \% 3600`

mins=`expr $seconds \/ 60`

seconds=`expr $seconds \% 60`

echo "$hrs : $mins : $seconds"
```

Output

```
→ Lab03 git:(master) ./Q2.sh
Enter seconds
121
0 : 2 : 1
→ Lab03 git:(master)
```

Question 3

Write a shell script to input two sides of rectangle and find out its area

Solution

```
#!/bin/bash

echo "Enter the length"

read L

echo "Enter the breadth"

read B

area=`echo $L \* $B | bc`

echo "Area: $area"
```

Output

```
DEVELOPER: ~
→ Lab03 git:(master) ./Q3.sh
Enter the length
34
Enter the breadth
12
Area: 408
```

Question 4

Write a shell script to input a 3 digit number and find out the sum of all the digits

Solution

```
#!/bin/bash

# assuming 3 digit number
echo "Enter a 3 digit number"

read number

sum=0

digit=`expr $number \% 10`
sum=`expr $sum + $digit`
number=`expr $number / 10`

digit=`expr $number \% 10`
sum=`expr $sum + $digit`
```

```

number=`expr $number \/ 10`

digit=`expr $number \% 10`
sum=`expr $sum + $digit`
number=`expr $number \/ 10`

echo "Digit Sum: $sum"

```

Output

```

→ Lab03 git:(master) ./Q4.sh
Enter a 3 digit number
123
Digit Sum: 6
→ Lab03 git:(master) ./Q5.sh
First number

```

Question 5

Write a shell script to import a 2 numbers and swap them

1. using third variable
2. without using third variable

Solution

```

#!/bin/bash

echo "First number"
read a

echo "Second number"
read b

orgA=$a
orgB=$b

echo "org vars    a: $a ; b: $b"

t=$a
a=$b
b=$t

echo "with temp var    a: $a ; b: $b"

# no extra var

```

```
orgB=`expr $orgA + $orgB`  
orgA=`expr $orgB - $orgA`  
orgB=`expr $orgB - $orgA`  
  
echo "without temp var    a: $orgA ; b: $orgB"
```

Output

```
Lab03 git:(master) ./Q5.sh  
First number  
12  
Second number  
34  
org vars    a: 12 ; b: 34  
with temp var    a: 34 ; b: 12  
without temp var    a: 34 ; b: 12  
→ Lab03 git:(master) █
```