

(1)

```
#!/bin/bash
read -p "enter first number: " num1
read -p "enter second number: " num2

sum=$(( $num1 + $num2 ))
echo "sum of given numbers: $sum"

if [ $num1 -gt $num2 ]
then
    echo "bigger number: $num1"
else
    echo "bigger number: $num2"
fi

count=$(( $num1 + 1 ))
total=0
while [ $count -lt $num2 ]
do
    total=$(( $total + $count ))
    count=$(( $count + 1 ))
done
average=$(( $total / ($num2 - $num1 - 1) ))
echo "average $num1 and $num2: $average"
```

```
melikamohammadi-99522086@ubuntu:~/Desktop$ bash Q1.sh
enter first number: 20
enter second number: 30
sum of given numbers: 50
bigger number: 30
average 20 and 30: 25
melikamohammadi-99522086@ubuntu:~/Desktop$
```

(2)

```
#!/bin/bash
read -p "please enter first number: " num1
read -p "please enter second number: " num2

echo "please select one of the following options:"
echo "1. Add (+)"
echo "2. Subtract (-)"
echo "3. Multiply (*)"
echo "4. Divide (/)"

read -p "Selected option: " operator

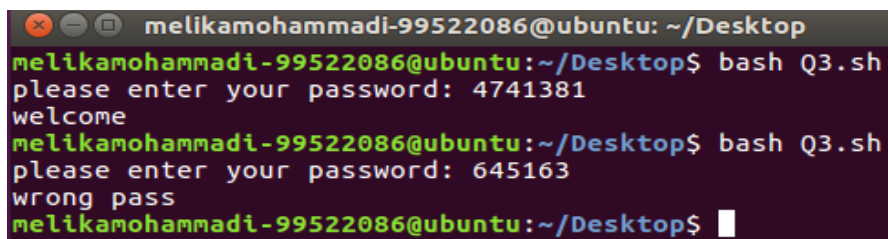
case $operator in
    1)
        result=$(( $num1 + $num2 ))
        echo "sum of $num1 and $num2 is: $result"
        ;;
    2)
        result=$(( $num1 - $num2 ))
        echo "sub of $num1 and $num2 is: $result"
        ;;
    3)
        result=$(( $num1 * $num2 ))
        echo "product of $num1 and $num2 is: $result"
        ;;
    4)
        if [ $num2 -eq 0 ]
        then
            echo "error: division by zero."
        else
            result=$(( $num1 / $num2 ))
            echo "the quotient of $num1 and $num2 is: $result"
        fi
        ;;
    *)
        echo "Error: invalid option."
        ;;
esac
```

```
melikamohammadi-99522086@ubuntu:~/Desktop$ bash Q2.sh
please enter first number: 20
please enter second number: 40
please select one of the following options:
1. Add (+)
2. Subtract (-)
3. Multiply (*)
4. Divide (/)
Selected option: 1
sum of 20 and 40 is: 60
melikamohammadi-99522086@ubuntu:~/Desktop$
```

```
#!/bin/bash

read -p "please enter your password: " password

if [ "$password" = "4741381" ]
then
    echo "welcome"
else
    echo "wrong pass"
fi
```

A terminal window with a dark background and light-colored text. The window title is 'melikamohammadi-99522086@ubuntu: ~/Desktop'. The prompt is 'melikamohammadi-99522086@ubuntu:~/Desktop\$'. The user enters 'bash Q3.sh'. The script prompts 'please enter your password: 4741381' and outputs 'welcome'. The user enters 'bash Q3.sh' again. The script prompts 'please enter your password: 645163' and outputs 'wrong pass'. The prompt returns to 'melikamohammadi-99522086@ubuntu:~/Desktop\$'.

```
melikamohammadi-99522086@ubuntu: ~/Desktop
melikamohammadi-99522086@ubuntu:~/Desktop$ bash Q3.sh
please enter your password: 4741381
welcome
melikamohammadi-99522086@ubuntu:~/Desktop$ bash Q3.sh
please enter your password: 645163
wrong pass
melikamohammadi-99522086@ubuntu:~/Desktop$
```