Selection Practice Problems with if, else

Write a program that reads 5 Random 3 Digit values and then outputs the minimum and the maximum value.

```
count=1     max=1
while [ $count -le 5 ]
do
        ran=$(( $((RANDOM%900))+100 ))
        printf "\t $ran \t"

        if [ $ran -gt $max ]
        then
                max=$ran
        fi
        if [ $count -eq 1 ]
        then
                min=$ran
        elif [ $ran -lt $min ]
        then
                min=$ran
        fi
        ((count++))
done
echo "max = $max and min = $min"
```

Write a program that takes day and month from the command line and prints true if day of month is between March 20 and June 20, false otherwise.

```
echo "Check day of month is between March 20 and June 20"

read -p " Enter Day (1-31) : " day
read -p " Enter Month number (1-12) : " Month

if [ $day -ge 20 ] && [ $day -le 31 ] && [ $Month -eq 3 ]
then
        echo "within range : true"
elif [ $day -ge 1 ] && [ $day -le 30 ] && [ $Month -eq 4 ]
then
        echo "within range : true"
elif [ $day -ge 1 ] && [ $day -le 31 ] && [ $Month -eq 5 ]
then
        echo "within range : true"
elif [ $day -ge 1 ] && [ $day -le 20 ] && [ $Month -eq 6 ]
then
         echo "within range : true"
else
        echo "False"
fi
```

Write a program that takes a year as input and outputs the Year is a Leap Year or not a Leap Year. A Leap Year checks for 4 Digit Number, Divisible by 4 and not 100 unless divisible by 400.

```
read -p "Enter any year (4-digits only) : " year
if [ $year -ge 1000 ] && [ $year -le 9999 ]
then
        leapChk1=$(($year % 400))        leapChk2=$(($year % 100))
        leapChk3=$(($year % 4))
        if [ $leapChk1 -eq 0 ] || [ $leapChk2 -ne 0 ] && [ $leapChk3 -eq 0 ]
        then      echo "$year : leap year"
        else      echo "$year : Not a leap year"
        fi
else        echo "please enter 4 digit year."
fi
```

Write a program to simulate a coin flip and print out "Heads" or "Tails" accordingly.

```
#!/bin/bash -x
randomValue=$((RANDOM%2))
if [ $randomValue -eq 1 ]
then
        echo "Heads"
else
        echo "Tails"
fi
```

Selection Practice Problems with if, elif and else

Read a single digit number and write the number in word

```
#!/bin/bash -x
read -p "Enter single digit : " num
if [ $num -eq 0 ]
then    echo "$num : Zero"
elif [ $num -eq 1 ]
then    echo "$num : One"
elif [ $num -eq 2 ]
then    echo "$num : Two"
elif [ $num -eq 3 ]
then    echo "$num : Three"
elif [ $num -eq 4 ]
then    echo "$num : Four"
elif [ $num -eq 5 ]
then    echo "$num : Five"
elif [ $num -eq 6 ]
then    echo "$num : Six"
elif [ $num -eq 7 ]
then    echo "$num : Seven"
elif [ $num -eq 8 ]
then    echo "$num : Eight"
elif [ $num -eq 9 ]
then    echo "$num : Nine"
else
        echo "$num : not a single digit number"
fi
```

Read a Number and Display the week day (Sunday, Monday,…)

```
#!/bin/bash -x
#0 for Sunday to 6  for saturday
read -p "Enter single digit (0 To 6) : " num
if [ $num -eq 0 ]
then  echo "$num : Sunday"
elif [ $num -eq 1 ]
then  echo "$num : Monday"
elif [ $num -eq 2 ]
then  echo "$num : Tuesday"
elif [ $num -eq 3 ]
then  echo "$num : Wednesday"
elif [ $num -eq 4 ]
then  echo "$num : Thursday"
elif [ $num -eq 5 ]
then  echo "$num : Friday"
elif [ $num -eq 6 ]
then  echo "$num : Saturday"
else
      echo "$num : Number not accepted."
fi
```

Enter 3 Numbers do following arithmetic operation and find the one that is maximum and minimum
1. a + b * c **3. c + a / b**
2. a % b + c **4. a * b + c**

```
read -p "Enter first number a: " a
read -p "Enter Second number b: " b
read -p "Enter Third number c: " c

cal1=$(($a+$b*$c))      cal2=$(($a%$b+$c))      cal3=$(($c+$a/$b))
cal4=$(($a*$b+$c))

echo "calculated values are : a+b*c = $cal1 , a%b+c = $cal2 , c+a/b = $cal3 , a*b+c =
$cal4"

max=1       min=0

for inpval in $cal1 $cal2 $cal3 $cal4
do
        if [ $inpval -ge $max ]
        then
                max=$inpval
        fi

        if [ $min -eq 0 ]
        then
                min=$inpval
        elif [ $inpval -le $min ]
        then
                min=$inpval
        fi
done
```

Selection Practice Problems with case statement

Read a single digit number and write the number in word using Case.

```
isZero=0    isOne=1     isTwo=2     isThree=3   isFour=4    isFive=5    isSix=6
isSeven=7   isEight=8   isNine=9

read -p "Enter single digit number : " num

        case $num in
                $isZero)   echo "$num : Zero"
                           ;;
                $isOne)   echo "$num : One"
                           ;;
                $isTwo)   echo "$num : Two"
                           ;;
                $isThree)   echo "$num : Three"
                           ;;
                $isFour)   echo "$num : four"
                           ;;
                $isFive)   echo "$num : Five"
                           ;;
                $isSix)   echo "$num : Six"
                           ;;
                $isSeven)   echo "$num : Seven"
                           ;;
                $isEight)   echo "$num : Eight"
                           ;;
                $isNine)   echo "$num : Nine"
                           ;;
                *)              echo "$num : Not a single digit number."
                           ;;
        esac
```

Read a Number and Display the week day (Sunday, Monday,…)

```
isZero=0    isOne=1     isTwo=2     isThree=3   isFour=4    isFive=5    isSix=6

read -p "Enter single digit number (0 to 6) : " num

        case $num in
                $isZero)   echo "$num : Sunday"
                           ;;
                $isOne)   echo "$num : Monday"
                           ;;
                $isTwo)   echo "$num : Tuesday"
                           ;;
                $isThree)   echo "$num : Wednesday"
                           ;;
                $isFour)   echo "$num : Thursday"
                           ;;
                $isFive)   echo "$num : Friday"
                           ;;
                $isSix)   echo "$num : Saturday"
                           ;;
                *)            echo "$num : Enter valid number."
                           ;;
        esac
```

Write a program that takes User Inputs and does Unit Conversion of different Length units
1. Feet to Inch 3. Inch to Feet
2. Feet to Meter 4. Meter to Feet

```
printf "Unit conversion Option : 1.Feet to Inch  2.Inch to Feet  3.Feet to Meter
4.Meter to Feet \n\n"

read -p "Select ur choice : " choice
read -p "Enter value to convert : " number

ch1=1   ch2=2   ch3=3   ch4=4

        case $choice in
                $ch1)   printf "$number Feet = "
                        awk -v num=$number 'BEGIN { print num*12 " inch " }'
                        ;;
                $ch2)   printf "$number Inch = "
                        awk -v num=$number 'BEGIN { print num*0.0833 " feet "}'
                           ;;
                $ch3)   printf "$number Feet = "
                        awk -v num=$number 'BEGIN { print num*0.3048 " meter " }'
                           ;;
                $ch4)   printf "$number Meter = "
                        awk -v num=$number 'BEGIN { print num*3.2808 " feet " }'
                           ;;
                *)            echo "Enter valid choice number."
                           ;;
        esac
```

Read a Number 1, 10, 100, 1000, etc and display unit, ten, hundred,…