Dictionary Problems

1. Write a program in the following steps
2. a. Roll a die and find the number between 1 to 6
3. b. Repeat the Die roll and find the result each time
4. c. Store the result in a dictionary
5. d. Repeat till any one of the number has reached 10 times
6. e. Find the number that reached maximum times and the one that was for minimum times

Shell Script:

```
#!/bin/bash
declare -A results
for num in `seq 1 6`
do
	results[$num]=0
done
max=0
while [ 0 ]
do
	randomNo=$((1+$RANDOM%6))
	((results[$randomNo]++))
	if [ ${results[$randomNo]} -eq 10 ]
	then
		max=$randomNo
		break
	fi
done
echo "Number to reach maximum times: $max"
min=1
minOcc=10
for i in `echo ${!results[@]}`
do
	if [ ${results[$i]} -lt $minOcc ]
	then
		minOcc=${results[$i]}
		min=$i
	fi
done
echo "Number to reach minimum times: $min"
```

Output:

```
$ ./p1.sh
Number to reach maximum times: 1
Number to reach minimum times: 2
```

2. Write a Program to generate a birth month of 50 individuals between the year 92 & 93. Find all the individuals having birthdays in the same month. Store it to finally print.

Shell Script:

```
#!/bin/bash
function getMonth(){
	case $1 in
		1)
			echo "January"
		;;
		2)
			echo "February"
		;;
		3)
			echo "March"
		;;
		4)
			echo "April"
		;;
		5)
			echo "May"
		;;
		6)
			echo "June"
		;;
		7)
			echo "July"
		;;
		8)
			echo "August"
		;;
		9)
			echo "September"
		;;
		10)
			echo "October"
		;;
		11)
			echo "November"
		;;
		12)
			echo "December"
		;;
	esac
}
declare -A monthBday
```

```
for num in `seq 1 12`
do
        month=(`getMonth $num`)
        monthBday[$month]=" "
       done
for i in `seq 1 50`
do
        randomNo=$((1+$RANDOM%12))
        month=(`getMonth $randomNo`)
        monthBday[$month]="${monthBday[$month]} $i"
done
for j in `echo ${!monthBday[@]}`
do
        echo "Person IDs having bdays in $j: ${monthBday[$j]}"
done
```

Output:

```
$ ./p2.sh
Person IDs having bdays in January:  14 26 37 38
Person IDs having bdays in December:  2 8 31 32 36
Person IDs having bdays in November:  12 34 35 42
Person IDs having bdays in May:  6 24 29 40
Person IDs having bdays in April:  46
Person IDs having bdays in September:  3 15 49
Person IDs having bdays in February:  13 16 28 47 48
Person IDs having bdays in March:  18 21 23
Person IDs having bdays in June:  1 5 11 25 27
Person IDs having bdays in August:  7 9 22 30 44 45 50
Person IDs having bdays in October:  20
Person IDs having bdays in July:  4 10 17 19 33 39 41 43
```