

Dictionary Practice Problems

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

```
GNU nano 6.4                                8-1.sh
declare -A dice

while true; do
    roll=$((1 + RANDOM % 6))

    ((dice[$roll]++))

    for i in {1..6}; do
        if [[ ${dice[$i]} -ge 10 ]]; then
            echo "Number $i reached 10 times"
            break 2
        fi
    done
done

max_num=1
min_num=1
for i in {2..6}; do
    if [[ ${dice[$i]} -gt ${dice[$max_num]} ]]; then
        max_num=$i
    fi
    if [[ ${dice[$i]} -lt ${dice[$min_num]} ]]; then
        min_num=$i
    fi
done

echo "Dice rolls count:"
for i in {1..6}; do
    echo "Number $i: ${dice[$i]}"
done
echo "The number that reached the maximum times is: $max_num (${dice[$max_num]} times)"
echo "The number that reached the minimum times is: $min_num (${dice[$min_num]} times)"
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/repoPortal/repo1/D8 (main)
$ sh 8-1.sh
Number 3 reached 10 times
Dice rolls count:
Number 1: 3
Number 2: 3
Number 3: 10
Number 4: 8
Number 5: 4
Number 6: 6
The number that reached the maximum times is: 3 (10 times)
The number that reached the minimum times is: 1 (3 times)
```

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.

```
GNU nano 6.4 8-2.sh
declare -a months

for i in {1..50}; do
    month=$((1 + RANDOM % 12))
    year=$((92 + RANDOM % 2))
    birthdate="$month/$year"
    months+=("$birthdate")
done

declare -A same_month
for month in "${months[@]}"; do
    if [[ -v same_month[$month] ]]; then
        same_month[$month]=$((same_month[$month] + 1))
    else
        same_month[$month]=1
    fi
done

echo "Birthdays by month:"
for month in "${!same_month[@]}"; do
    count=${same_month[$month]}
    echo " - $month: $count individuals"
done
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/repoPortal/repo1/D8 (main)
$ sh 8-2.sh
Birthdays by month:
- 4/93: 3 individuals
- 4/92: 3 individuals
- 1/92: 3 individuals
- 1/93: 2 individuals
- 11/93: 1 individuals
- 11/92: 7 individuals
- 5/92: 2 individuals
- 5/93: 4 individuals
- 10/92: 2 individuals
- 10/93: 2 individuals
- 3/92: 1 individuals
- 6/93: 3 individuals
- 6/92: 1 individuals
- 9/92: 1 individuals
- 9/93: 1 individuals
- 7/92: 3 individuals
- 7/93: 2 individuals
- 2/93: 2 individuals
- 2/92: 2 individuals
- 12/92: 1 individuals
- 12/93: 2 individuals
- 8/93: 2 individuals
```