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

solution::

#! /bin/bash

declare -A diceRoll

c1=0

c2=0

c3=0

c4=0

c5=0

c6=0

i=1

echo "Rolling a dice..."

while [[ $c1 -ne 10 && $c2 -ne 10 && $c3 -ne 10 && $c4 -ne 10 && $c5 -ne 10 && $c6 -ne 10 ]]

do

dice=$((RANDOM % 6 + 1))

# echo $dice

diceRoll[i]=$dice

if [ ${dice} -eq 1 ]

then

((c1++))

echo "1 is reached "

elif [ ${dice} -eq 2 ]

then

((c2++))

echo "2 is reached "

elif [ ${dice} -eq 3 ]

then

((c3++))

echo "3 is reached "

elif [ ${dice} -eq 4 ]

then

((c4++))

echo "4 is reached "

elif [ ${dice} -eq 5 ]

then

((c5++))

echo "5 is reached "

elif [ ${dice} -eq 6 ]

then

((c6++))

echo "6 is reached "

else

exit

fi

((i++))

#echo ${!diceRoll[@]}

done

echo "| dice 1 = " $c1

echo "| dice 2 = " $c2

echo "| dice 3 = " $c3

echo "| dice 4 = " $c4

echo "| dice 5 = " $c5

echo "| dice 6 = " $c6

if [[ $c1 -lt $c2 && $c1 -lt $c3 && $c1 -lt $c4 && $c1 -lt $c5 && $c1 -lt $c6 ]]

then

echo " dice 1 " $c1 "is minimum dice ";

elif [[ $c2 -lt $c1 && $c2 -lt $c3 && $c2 -lt $c4 && $c2 -lt $c5 && $c2 -lt $c6 ]]

then

echo " dice 2 " $c2 "is minimum dice ";

elif [[ $c3 -lt $c1 && $c3 -lt $c2 && $c3 -lt $c4 && $c3 -lt $c5 && $c3 -lt $c6 ]]

then

echo " dice 3 " $c3 "is minimum dice ";

elif [[ $c4 -lt $c1 && $c4 -lt $c2 && $c4 -lt $c3 && $c4 -lt $c5 && $c4 -lt $c6 ]]

then

echo " dice 4 " $c4 "is minimum dice ";

elif [[ $c5 -lt $c1 && $c5 -lt $c2 && $c5 -lt $c3 && $c5 -lt $c4 && $c5 -lt $c6 ]]

then

echo " dice 5 " $c5 "is minimum dice ";

elif [[ $c6 -lt $c1 && $c6 -lt $c2 && $c6 -lt $c3 && $c6 -lt $c4 && $c6 -lt $c5 ]]

then

echo "dice 6 " $c6 "is minimum dice"

else

echo "....more than one dice is minimum....";

fi

echo " Total Rolls " $i

echo "maximum time reached dice " ${diceRoll[@]}

output ::

$ ./diceDict.sh

Rolling a dice...

6 is reached

3 is reached

3 is reached

4 is reached

5 is reached

4 is reached

1 is reached

1 is reached

5 is reached

4 is reached

3 is reached

4 is reached

1 is reached

1 is reached

6 is reached

4 is reached

1 is reached

4 is reached

5 is reached

3 is reached

3 is reached

5 is reached

3 is reached

1 is reached

1 is reached

1 is reached

3 is reached

2 is reached

1 is reached

1 is reached

| dice 1 = 10

| dice 2 = 1

| dice 3 = 7

| dice 4 = 6

| dice 5 = 4

| dice 6 = 2

dice 2 1 is minimum dice

Total Rolls 31

maximum time reached dice 1

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.

Solution::

#!/bin/bash

declare -A birth

month=(Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec)

for (( i=1; i<=49; i++ ))

do

x=$(( RANDOM % 12 + 1 ))

arr[$(($x-1))]="${arr[$x-1]} Person $i"

birth[${month[$(($x-1))]}]=${arr[$(($x-1))]}

done

echo "Recpective Brithday Month are : "

for key in ${!birth[@]}

do

echo "$key : ${birth[$key]}"

done

output ::

$ ./dictBirth.sh

Recpective Brithday Month are :

Mar : Person 10 Person 11 Person 22 Person 24 Person 49

Feb : Person 18

May : Person 17 Person 20 Person 39 Person 42 Person 45

Jan : Person 9 Person 43 Person 48

Dec : Person 7 Person 19 Person 35

Aug : Person 4 Person 12 Person 13 Person 23 Person 32

Jul : Person 3 Person 6 Person 16 Person 25 Person 27 Person 28 Person 29 Person 31 Person 41 Person 44 Person 46

Jun : Person 14 Person 15 Person 30 Person 47

Nov : Person 21 Person 26 Person 33

Sep : Person 1 Person 2 Person 37 Person 40

Apr : Person 8 Person 34 Person 36

Oct : Person 5 Person 38