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

$ cat rolldie\_dictionary.sh

#! /bin/bash

diceResult=(0 0 0 0 0 0 0)

function rollDice() {

echo $((RANDOM%6+1))

}

function findMaxMinDice() {

resultDice=("$@")

max=${resultDice[1]}

maxDice=1

min=${resultDice[1]}

minDice=1

for ((counter=2; counter < ${#resultDice[@]} ; counter++))

do

if [ $max -lt ${resultDice[$counter]} ]

then

max=${resultDice[$counter]}

maxDice=$counter

fi

if [ $min -gt ${resultDice[$counter]} ]

then

min=${resultDice[$counter]}

minDice=$counter

fi

done

echo "Dice with max times $maxDice and min times $minDice "

}

function checkMaxDiceTimes() {

prevResult=$1

if [ $prevResult -eq 10 ]

then

isPresentMax=1

else

isPresentMax=0

fi

echo $isPresentMax

}

while ((1))

do

dice=$(rollDice)

if [[ $( checkMaxDiceTimes ${diceResult[$dice]} ) -eq 1 ]]

then

break

else

diceResult[((dice))]=$((diceResult[((dice))]+1))

if [[ $( checkMaxDiceTimes ${diceResult[$dice]} ) -eq 1 ]]

then

break

fi

fi

done

echo "Dice Roll Times \n"

for i in " ${!diceResult[@]}"

do

echo "$i:${diceResult[$i]}"

done

findMaxMinDice ${diceResult[@]}

$ ./rolldie\_dictionary.sh

Dice Roll Times \n

0:0

1:10

2:7

3:7

4:8

5:4

6:8

Dice with max times 1 and min times 5

$ ./rolldie\_dictionary.sh

Dice Roll Times \n

0:0

1:9

2:6

3:10

4:6

5:9

6:8

Dice with max times 3 and min 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.

$ cat birthmonth.sh

#!/bin/bash

declare -A same\_month

divisor=$(( 12-1+1 ))

select\_month=$(( 1+($RANDOM%$divisor) ))

case $select\_month in

1)

month="January"

;;

2)

month="February"

;;

3)

month="March"

;;

4)

month="April"

;;

5)

month="May"

;;

6)

month="June"

;;

7)

month="July"

;;

8)

month="August"

;;

9)

month="September"

;;

10)

month="October"

;;

11)

month="November"

;;

12)

month="December"

;;

esac

echo "Individuals having birthdays on $month are: "

j=0

for (( i=1;i<=50;i=$i+1 ))

do

divisor1=$(( 12-1+1 ))

birth\_month=$(( 1+($RANDOM%$divisor1) ))

if (( $birth\_month==$select\_month ))

then

over1=1

while (( $over1!=0 ))

do

same\_month[$j]="Individual"$i" "

j=$(( $j+1 ))

over1=0

done

fi

done

echo ${same\_month[@]}

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$ ./birthmonth.sh

Individuals having birthdays on September are:

Individual2 Individual10 Individual25 Individual32 Individual43 Individual45