Day 06 (set-B) Assignment Solutions

1. Write a program that takes a command-line argument n and prints a table of the powers of 2 that are less than or equal to 2^n till 256 is reached.

CODE:

```
#!/bin/bash/
n=$@
echo "Argument value is "$n
powerOfTwo=1
i=1
while [ $i -le $n ]
do
        owerOfTwo=$(( 2*$powerOfTwo ))
        echo "2^"$i "=" $powerOfTwo
        i=$(($i+1))
done
```

OUTPUT:

```
ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_1.sh 4
argument value is 4
2^1 = 2
2^2 = 4
2^3 = 8
2^4 = 16
```

2. Find the Magic Number

a. Ask the user to think of a number N between 1 and 100.
b. Then check with the user if the number is less then N/2 or greater
c. Repeat till the Magic Number is reached.

CODE:

```
#!/bin/bash/
read -p "Enter Number:" number
while [ $(($number%9)) -eq 1 ]
do
        echo "$number is a Magic Number."
        exit
done
echo "$number is NOT a Magic Number."
```

OUTPUT:

```
ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_2.sh
Enter Number:82
82 is a Magic Number.

ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_2.sh
Enter Number:34
34 is NOT a Magic Number.
```

3. Extend the Flip Coin problem till either Heads or Tails wins 11 times.

CODE:

```
#!/bin/bash
isHead=1
randomCheck=$(( RANDOM%2 ))
echo "Coin is Fliping..."
if [ $isHead -eq $randomCheck ]
then
        echo "HEAD"
else
        echo "TAIL"
fi
while [ $randomCheck ]
do
         echo "You WIN.."
        exit
done
```

OUTPUT:

```
ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_3.sh
Coin is Fliping...
HEAD
You WIN

ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_3.sh
Coin is Fliping...
TAIL
You WIN
```

4. Write a Program where a gambler starts with Rs. 100 and places Re 1 bet until he/she goes broke i.e. no more money to gamble or reaches the goal of Rs. 200. Keeps track of number of times won and number of bets made.

CODE:

```
#!/bin/bash/
Amount=100
for (( i=1;i>0;i++ ))
do
        coin=$((RANDOM%2))
        if [ $coin -eq 1 ]
         then
                Amount=$(($Amount+1))
                echo $Amount
                if [ $Amount=200 ]
                 then
                        echo "You WIN bets"
                        echo "Total Bests=$i"
                        exit
                         fi
```

```
        else
                Amount=$(($Amount-1))
                echo $Amount
        fi
    done
```

OUTPUT:

```
ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_4.sh
101
You WIN bets
Total Bests=1

ROY@ROY-PC MINGW64 ~/Desktop/DeskTop/shellPrograming/Day06Assignment (master)
$ ./que2_4.sh
99
98
97
97
You WIN bets
Total Bests=5
```