

# Repetition Practice Problems with while loop

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..

```
n=0
r=0
read -p "enter number " a
while (( n<=a )) && (( r<256 ))
do
r=$((2**n))
echo $r
n=$((n+1))
done
```

2. Find the Magic Number
  - a. Ask the user to think of a number  $n$  between 1 to 100
  - b. Then check with the user if the number is less than  $n/2$  or greater
  - c. Repeat till the Magic Number is reached..
3. Extend the Flip Coin problem till either Heads or Tails wins 11 times.

```
headcount=0
tailcount=0
while (( headcount!=11 && tailcount !=11))
do
let result=$(( RANDOM%2 ))
echo "result : $result"
if (( $result == 0 ))
then
let headcount+=1
echo "head : $headcount"
else
let tailcount+=1
echo "tail : $tailcount"
fi
done
```

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.