

Program 6.2

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 that are less than or equal to 2^n till 256 is reached.

```
#!/bin/bash -x

echo "enter a value : "
read n
i=1;
while [ $i -le 9 ]
do
i=$(( i + 1 ));
result=$((n ** i));
if [ $result -le 256 ]
then
echo "$n to the $i power is $result"
else
exit;
fi
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.

Code :

```
numfrom=0;
numto=100;
mid=$(( $numfrom + $numto / 2 ));
echo "Think a number between 1 to 100 "
while [ true ]
do
echo "It is less than $mid"
read yesno
if [[ ( 'y' -eq $yesno ) || ( 'Y' -eq $yesno ) ]]
then
numto=mid;
else
numfrom=mid;
fi
mid=$(( $numfrom + $numto / 2 ));
if [[ ( $numfrom -eq $mid ) || ( $numto -eq $mid ) ]]
then
echo "It is more than $numfrom"
read yesno;
if [[ ( 'y' -eq $yesno ) || ( 'Y' -eq $yesno ) ]]
then
echo "It is $numto"
else
echo "It is $numfrom"
fi
fi
done
```

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

```
#!/bin/bash -x
```

```
count=0;
while [ $count -le 11 ]
do
    randomcheck=$((RANDOM%2))
    if [ $randomcheck -eq 1 ]
    then
        echo "head";
        count=$((count + 1 ));
        echo $count;
    else
        echo "tail"
        count=$(( count + 1 ));
    fi
done
```