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Day 5 problem 1 solution

1. Use Random Function ((RANDOM)) to get Single Digit

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ echo $RANDOM
16678
```

2. Use Random to get Dice Number between 1 to 6

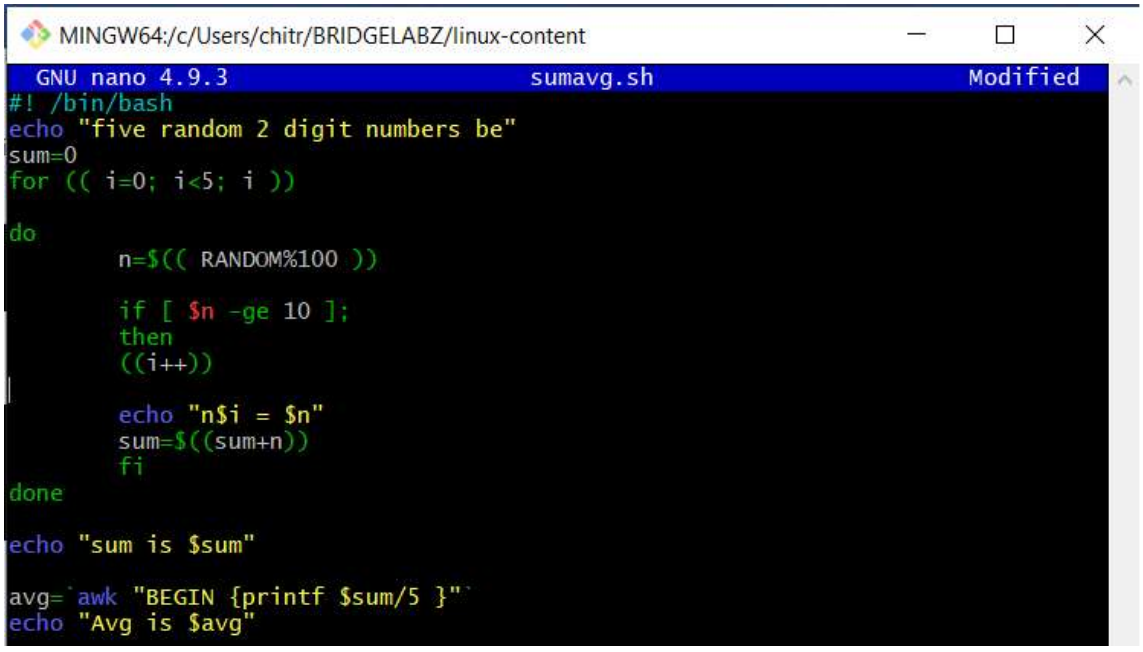
```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ echo $((RANDOM%6 + 1))
3
```

3. Add two Random Dice Number and Print the Result

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ echo $((RANDOM%6 + 1 + RANDOM%6 +1))
9
```

4. Write a program that reads 5 Random 2 Digit values, then find their sum and the average

PROOGRAM:



OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./sumavg.sh
five random 2 digit numbers be
n1 = 14
n2 = 41
n3 = 84
n4 = 91
n5 = 32
sum is 262
Avg is 52.4
```

5. Unit Conversion

a. 1ft = 12 in then 42 in = ? ft

b. Rectangular Plot of 60 feet x 40 feet in meters

c. Calculate area of 25 such plots in acres

PROGRAM:

MINGW64:/c/Users/chitr/BRIDGELABZ/linux-content

```
 GNU nano 4.9.3                    unitconversions.sh
#! /bin/bash
echo "enter a, b or c"
read w


if [ $w = a ];
then
p=`awk "BEGIN {print 42/12}"`
echo -n "42 inch is $p feet"

elif [ $w = b ];
then
x=`awk "BEGIN {print 60*12.54/100}"`
y=`awk "BEGIN {print 40*12.54/100}"`
echo "60 feet x 40 feet is $x meter X $y meter"

elif [ $w = c ];
then
area=`awk "BEGIN {print 60*40*25*2.296/100000}"`
echo "Area of 25 plots of 60 feet X 40 feet is $area acre"

else
echo "letter you entered does not match"
fi
```

OUTPUT:

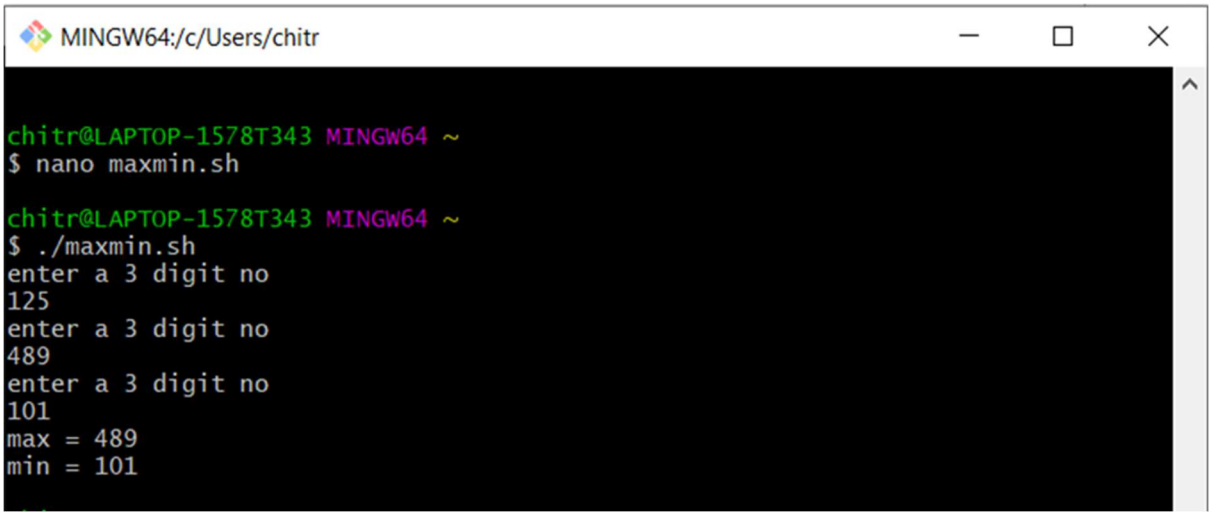

chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./unitconversions.sh
enter a, b or c
m
letter you entered does not match
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./unitconversions.sh
enter a, b or c
c
Area of 25 plots of 60 feet X 40 feet is 1.3776 acre
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./unitconversions.sh
enter a, b or c
a
42 inch is 3.5 feet
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./unitconversions.sh
enter a, b or c
b
60 feet x 40 feet is 7.524 meter X 5.016 meter

Day 5 problem 2 solution

1.Write a program that reads 5 Random 3 Digit values and then outputs the minimum and the maximum value

PROGRAM:

PROGRAM OUTPUT



2. Write a program that takes day and month from the command line and prints true if day of month is between March 20 and June 20, false otherwise.

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ nano datemonth.sh
```

PROGRAM:

MINGW64:/c/Users/chitr

```
  GNU nano 4.9.3                    datemonth.sh
#! /bin/bash -x
        echo "enter month"
        read m
        echo "enter date"
        read d
        if [ $m = "april" ] || [ $m = "may" ];
        then
        echo "true"

        elif [ $m = "march" ] && [ $d -ge 20 ];
        then
        echo "true"
        elif [ $m = "june" ] && [ $d -lt 20 ];
        then
        echo "true"
        else
        echo "false"
        fi


                          [ Read 18 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Paste Text^T To Spell  ^_ Go To Line
```

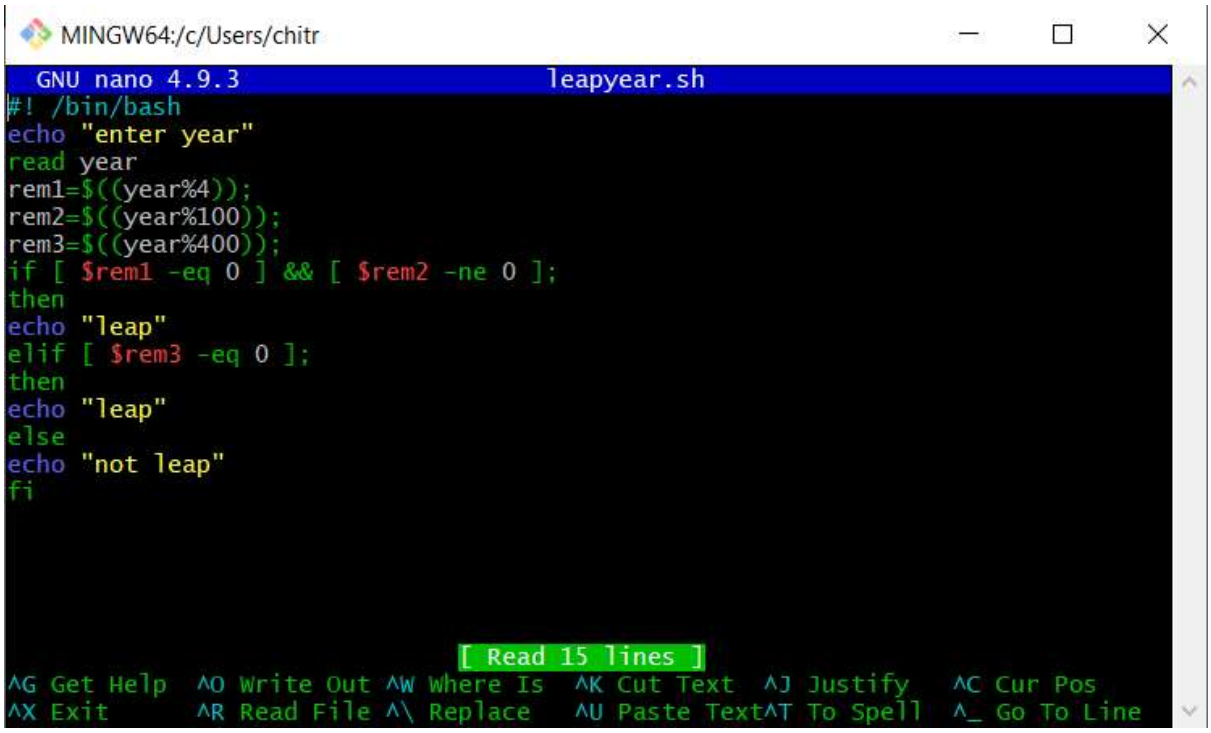
OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ ./datemonth.sh
enter month
june
enter date
20
false
```

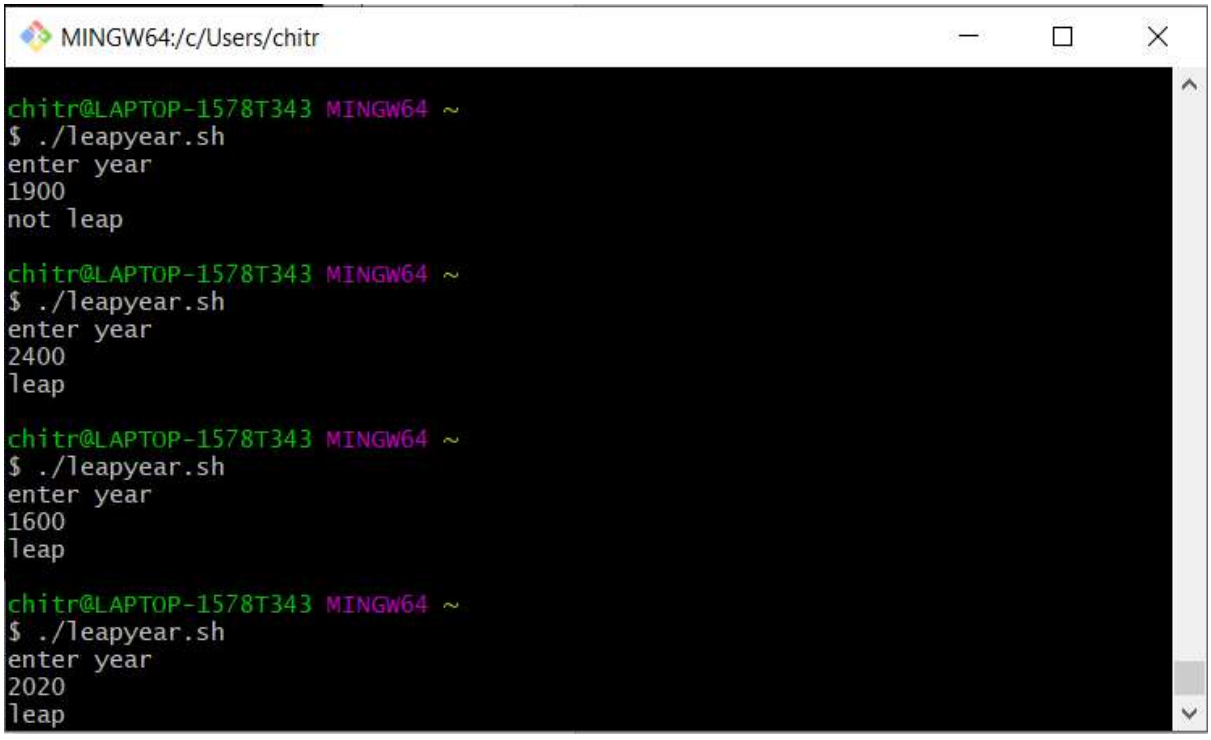
3.Write a program that takes a year as input and outputs the Year is a Leap Year or not a Leap Year. A Leap Year checks for 4 Digit Number, Divisible by 4 and not 100 unless divisible by 400.

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ nano leapyear.sh
```

PROGRAM:

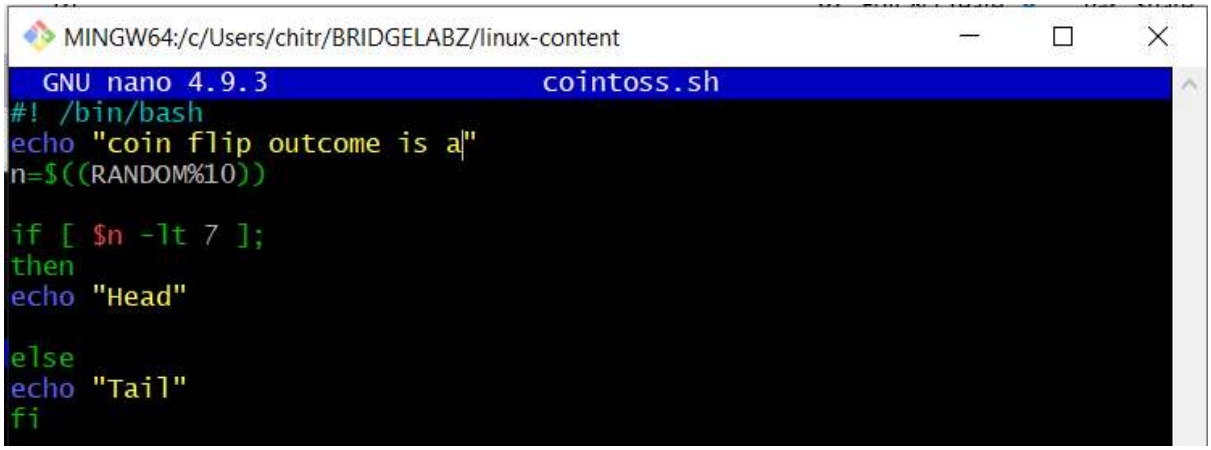


OUTPUT:

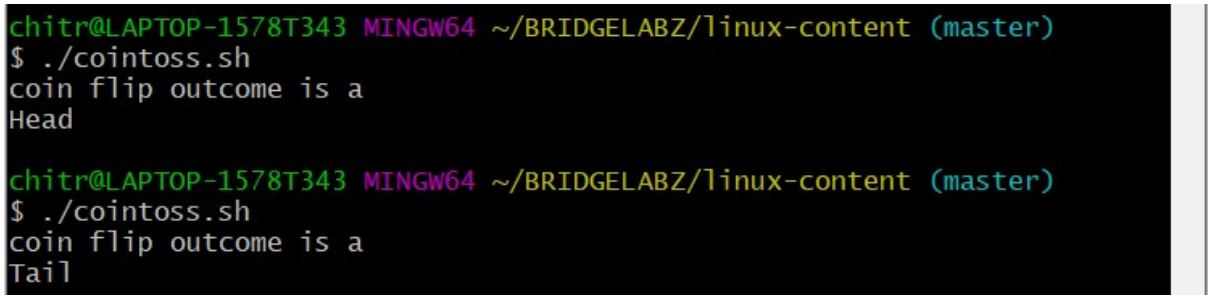


4. Write a program to simulate a coin flip and print out "Heads" or "Tails" accordingly.

PROGRAM:

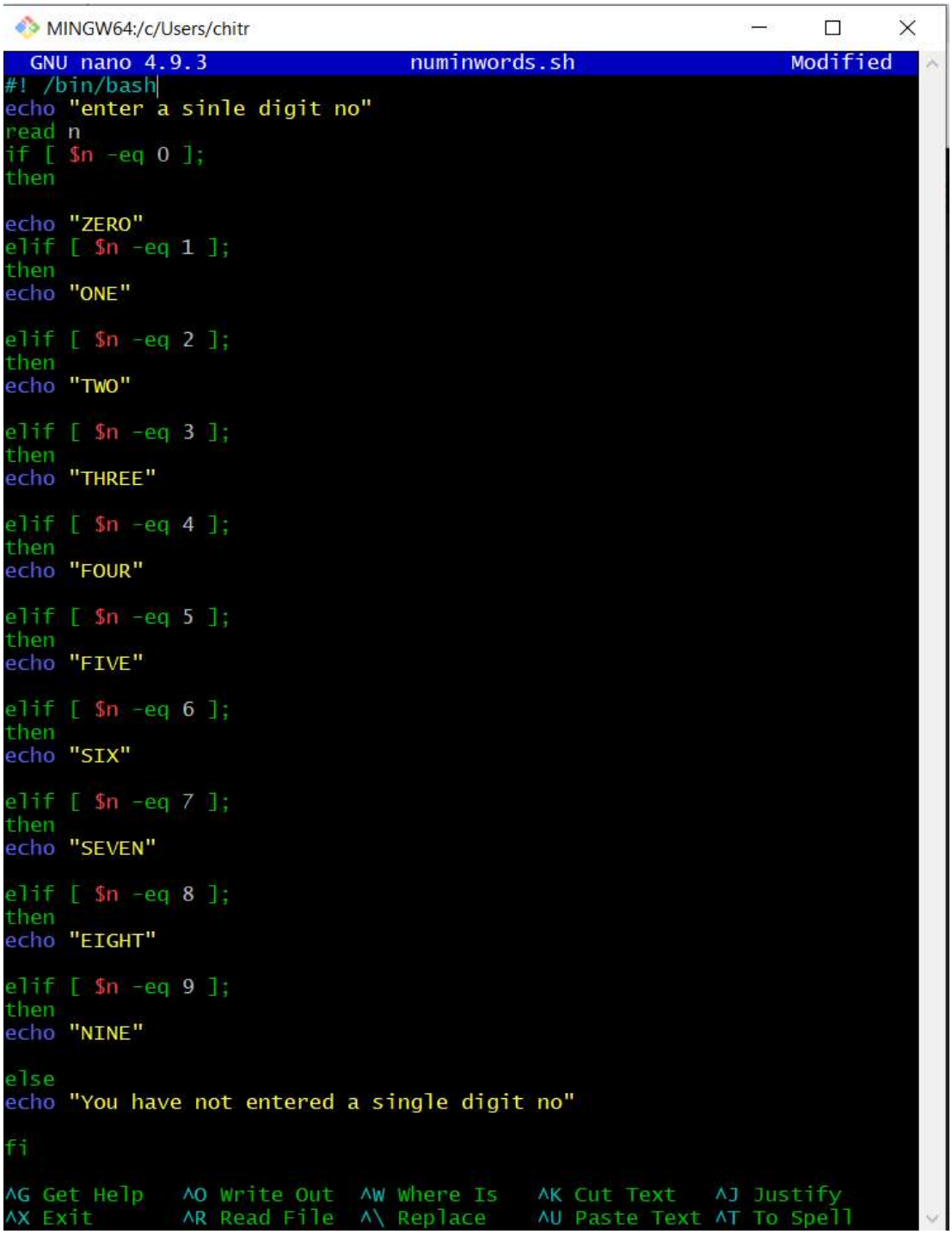


OUTPUT:



1.Read a single digit number and write the number in word

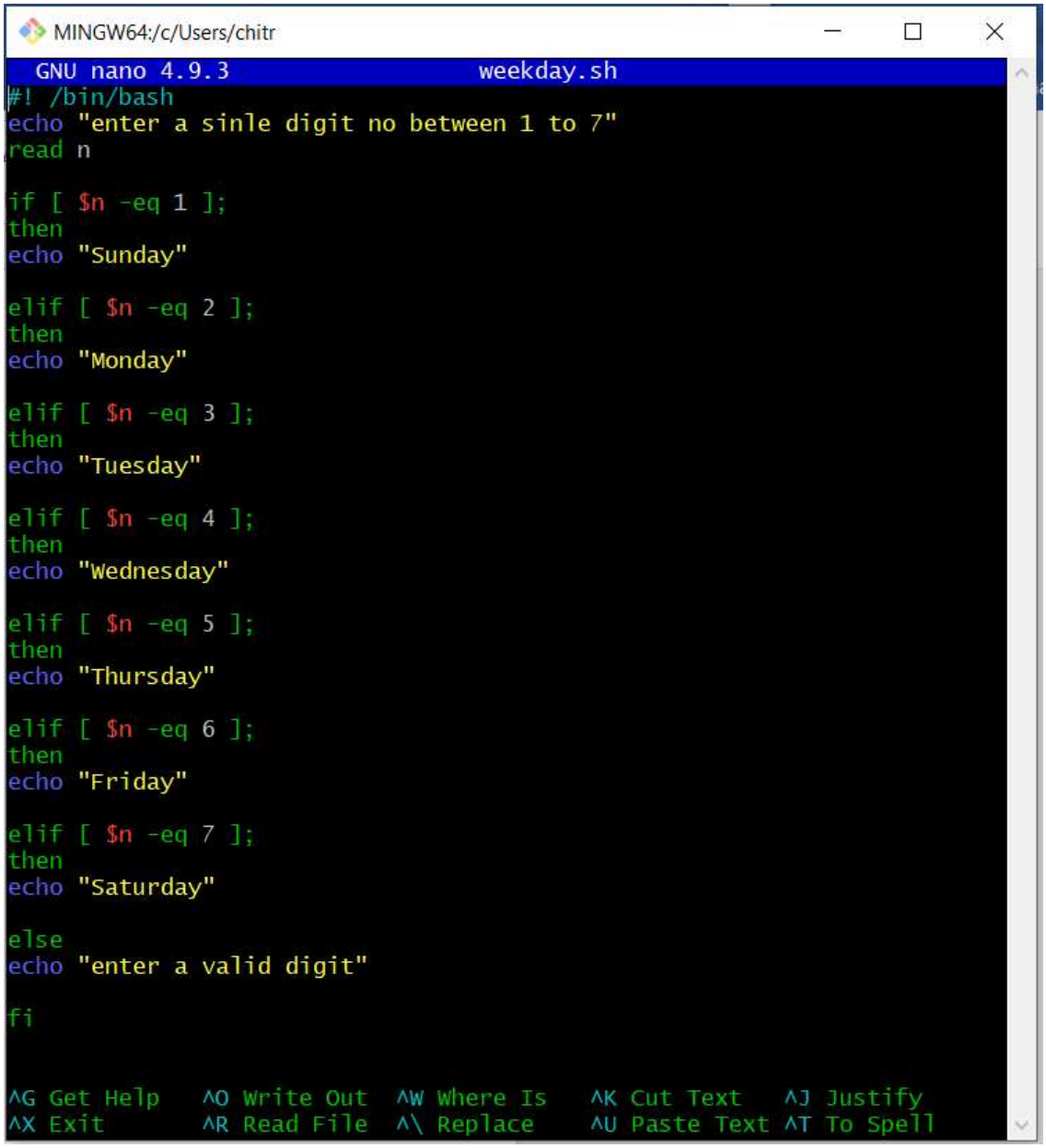
PROGRAM:



OUTPUT:

2. Read a Number and Display the week day (Sunday, Monday,...)

PROGRAM:



OUTPUT:

3.Read a Number 1, 10, 100, 1000, etc and display unit, ten, hundred,..

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ nano 10multiples.sh
```

PROGRAM:

MINGW64:/c/Users/chitr

```
  GNU nano 4.9.3                    10multiples.sh
#! /bin/bash
echo "enter a sinle digit no"
read n

if [ $n -eq 1 ];
then
echo "unit"

elif [ $n -eq 10 ];
then
echo "ten"

elif [ $n -eq 100 ];
then
echo "hundred"

elif [ $n -eq 1000 ];
then
echo "thousand"

elif [ $n -eq 10000 ];
then
echo "ten thousand"

elif [ $n -eq 100000 ];
then
echo "lakh"

elif [ $n -eq 1000000 ];
then
echo "ten lakh"

elif [ $n -eq 10000000 ];
then
echo "crore"

elif [ $n -eq 100000000 ];
then
echo "ten crore"

else
echo "enter a valid number either one or a multiple of 10"
fi


^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Paste Text^T To Spell  ^_ Go To Line
```

OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ ./10multiples.sh
enter a sinle digit no
100
hundred
```

4. Enter 3 Numbers do following arithmetic operation and find the one that is maximum & minimum 1. a + b * c 2. a % b + c 3. c + a / b 4. a * b + c

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ nano aritmaticopmaxmin.sh
```

PROGRAM:

```
  GNU nano 4.9.3          aritmaticopmaxmin.sh          Modified
#!/bin/bash
echo "Enter number a"
read a
echo "Enter number b"
read b
echo "Enter number c"
read c

p=$((a+b*c))
q=$((a%b+c))
r=$((c+a*b))
s=$((a*b+c))

echo "a+b*c = $p"
echo "a%b+c = $q"
echo "c+a*b = $r"
echo "a*b+c = $s"

if [ $p -ge $q ] && [ $p -ge $r ] && [ $p -ge $s ];
then
echo "max is a+b*c=$p"
elif [ $q -ge $p ] && [ $q -ge $r ] && [ $q -ge $s ];
then
echo "max is a%b+c=$q"
elif [ $r -ge $p ] && [ $r -ge $q ] && [ $r -ge $s ];
then
echo "max is c+a*b=$r"
elif [ $s -ge $p ] && [ $s -ge $q ] && [ $s -ge $r ];
then
echo "max is a*b+c=$s"
fi

if [ $p -le $q ] && [ $p -le $r ] && [ $p -le $s ];
then
echo "min is a+b*c=$p"
elif [ $q -le $p ] && [ $q -le $r ] && [ $q -le $s ];
then
echo "min is a%b+c=$q"
elif [ $r -le $p ] && [ $r -le $q ] && [ $r -le $s ];
then
echo "min is c+a/b=$r"
elif [ $s -le $p ] && [ $s -le $q ] && [ $s -le $r ];
then
echo "min is a*b+c=$s"
fi
```

OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~
$ ./aritmaticopmaxmin.sh
Enter number a
5
Enter number b
4
Enter number c
3
a+b*c = 17
a%b+c = 4
c+a*b = 23
a*b+c = 23
max is c+a*b=23
min is a%b+c=4
```

CASE STATEMENTS

1. Read a single digit number and write the number in word using Case

PROGRAM:

```
  GNU nano 4.9.3                numtoword.sh
#!/bin/bash

echo "Enter a single digit number"
read n
case $n in
1)
echo "one" ;;
2)
echo "two" ;;
3)
echo "three" ;;
4)
echo "four" ;;
5)
echo "five" ;;
6)
echo "six" ;;
7)
echo "seven" ;;
8)
echo "eight" ;;
9)
echo "nine" ;;
*)
echo "enter a single digit no only" ;;
esac
```

OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./numtoword.sh
Enter a single digit number
7
seven
```

2. Read a Number and Display the week day (Sunday, Monday,...)

PPROGRAM:

MINGW64:/c/Users/chitr/BRIDGELABZ/linux-content

```
  GNU nano 4.9.3                  numtoday.sh
#!/bin/bash

echo "Enter a number in the range 1 to 7"
read n
case $n in
1)
echo "sunday" ;;
2)
echo "monday" ;;
3)
echo "tuesday" ;;
4)
echo "Wednesday" ;;
5)
echo "thursday" ;;
6)
echo "friday" ;;
7)
echo "saturday" ;;

*)
echo "enter a valid number" ;;
esac
```

OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./numtoday.sh
Enter a number in the range 1 to 7
5
thursday
```

3. Read a Number 1, 10, 100, 1000, etc and display unit, ten, hundred,...

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ nano multiples.sh
```

PROGRAM:

MINGW64:/c/Users/chitr/BRIDGELABZ/linux-content

```
  GNU nano 4.9.3                multiples.sh
#!/bin/bash

echo "Enter either one or a multiple of 10"
read n
case $n in
1)
echo "one" ;;
10)
echo "ten" ;;
100)
echo "hundred" ;;
1000)
echo "thousand" ;;
10000)
echo "ten thousand" ;;
100000)
echo "lakh" ;;
1000000)
echo "ten lakh" ;;
1000000)
echo "crore" ;;
1000000)
echo "ten crore" ;;

*)
echo "enter a valid number"
esac
```

OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./multiples.sh
Enter either one or a multiple of 10
100
hundred
```

4. Write a program that takes User Inputs and does Unit Conversion of different Length units1. Feet to Inch 2. Feet to Meter 3. Inch to Feet 4. Meter to Feet

PROGRAM:

MINGW64:/c/Users/chitr/BRIDGELABZ/linux-content

```
  GNU nano 4.9.3                    conversions.sh
#! /bin/bash
echo "Enter a number"
echo "1 for feet to inch"
echo "2 for feet to meter"
echo "3 for inch to feet"
echo "4 for meter to feet"
read n

echo "Enter lenght"
read len

case $n in

1)
echo "feet=$len"
echo "inch = "
printf %.2f\\n "$((10000*len*12))e-4" ;;

2)
echo "feet=$len and"
echo "meter = "
printf %.2f\\n "$((10000*len*12.54/100))e-4" ;;


3)
echo "inch=$len"
echo "feet = "
printf %.2f\\n "$((10000*len/12))e-4" ;;

4)
echo "meter=$len"
echo "inch = "
printf %.2f\\n "$((10000*len*100/12.54))e-4" ;;

*)
echo "enter a valid no" ;;
esac
```

OUTPUT:

```
chitr@LAPTOP-1578T343 MINGW64 ~/BRIDGELABZ/linux-content (master)
$ ./conversions.sh
Enter a number
1 for feet to inch
2 for feet to meter
3 for inch to feet
4 for meter to feet
3
Enter lenght
100
inch=100
feet =
8.33
```