**DAY 5 Assignment**

**Sequences Practice Problems**

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

num1=$((RANDOM % 9 + 0 ))

echo "Num: $num1"

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

dice=$((RANDOM % 6 + 1 ))

echo "Num: $dice"

1. Add two Random Dice Number and Print the Result

num1=$((RANDOM % 6 + 1 ))

echo "Dice 1 = $num1"

num2=$((RANDOM % 6 + 1 ))

echo "Dice 2 = $num2"

sum=$(($num1+$num2))

echo "Sum= $sum"

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

num1=$((RANDOM % 99 + 10 ))

echo "Num1 = $num1"

num2=$((RANDOM % 99 + 10 ))

echo "Num2 = $num2"

sum=$(($num1+$num2))

echo "Sum = $sum"

avg=$(($sum/2))

echo "Avarage: $avg"

1. Unit Conversion
   1. 1ft = 12 in then 42 in = ? ft

unit=42

echo "42 inch in Feet: "$(($unit/12))

* 1. Rectangular Plot of 60 feet x 40 feet in meters

unit=$((60\*40))

echo "Feet to Meter: "$(($(($unit\*3))/10))

**Selection Practice Problems with if & else**

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

num1=$((RANDOM % 999 + 101 ))

echo "Num1 = $num1"

num2=$((RANDOM % 999 + 101 ))

echo "Num2 = $num2"

num3=$((RANDOM % 999 + 101 ))

echo " Num3 = $num3"

#To find maximum value

if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]

then

echo "Maximum number is: "$num1

elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]

then

echo "Maximum number is: "$num2

else

echo "Maximum number is: "$num3

fi

# To find minimum value

if [ $num1 -lt $num2 ] && [ $num1 -lt $num3 ]

then

echo "Minimum number is: "$num1

elif [ $num2 -lt $num1 ] && [ $num2 -lt $num3 ]

then

echo "Minimum number is: "$num2

else

echo "Minimum number is: "$num3

fi

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.

#!/bin/bash -x

read -p " Enter Date:-" Date

read -p " Enter Month:-" Month

if [ $Month -gt 3 -a $Month -lt 6 -a $Date -le 31 -a $Date -ge 1 ]

then

echo $Date $Month "True"

elif [ $Month -eq 3 -a $Date -ge 20 -a $Date -le 31 ]

then

echo $Date $Month "True"

elif [ $Month -eq 6 -a $Date -le 20 -a $Date -ge 1 ]

then

echo $Date $Month "True"

else

echo "False."

fi

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.

#Program to check leep year

#!/bin/bash -x

echo "Enter a year:"

read year

if [ `expr $year % 4` -eq 0 ] && [ `expr $year % 100` -ne 0 ] && [ `expr $year >

then

echo "$year is a leap year"

else

echo "$year is not a leap year"

fi

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

#Program of Coin Toss

#!/bin/bash

Result=$((RANDOM%2))

if [[ ${Result} -eq 0 ]]; then

echo HEADS

elif [[ ${Result} -eq 1 ]]; then

echo TAILS

fi

**Selection Practice Problems with if, elif and else**

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

# Read a singler digit number and write the number in word.

#!/bin/bash

read -p "Enter the number between 1 to 9: " Num

if [ $Num -eq 0 ]

then

echo "Zero"

elif [ $Num -eq 1 ]

then

echo "One"

elif [ $Num -eq 2 ]

then

echo "Two"

elif [ $Num -eq 3 ]

then

echo "Three"

elif [ $Num -eq 4 ]

then

echo "Four"

elif [ $Num -eq 5 ]

then

echo "Five"

elif [ $Num -eq 6 ]

then

echo "Six"

elif [ $Num -eq 7 ]

then

echo "Seven"

elif [ $Num -eq 8 ]

then

echo "Eight"

elif [ $Num -eq 9 ]

then

echo "Nine"

else

echo "Enter Number between 1 to 9 only"

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

# Read the Number and display the week day(Sunday, Monday,...)

#!/bin/bash

read -p "Enter number between 1 to 7: " Num

if [ $Num -eq 1 ]

then

echo "Sunday"

elif [ $Num -eq 2 ]

then

echo "Monday"

elif [ $Num -eq 3 ]

then

echo "Tuesday"

elif [ $Num -eq 4 ]

then

echo "Wednesday"

elif [ $Num -eq 5 ]

then

echo "Thursday"

elif [ $Num -eq 6 ]

then

echo "Friday"

elif [ $Num -eq 7 ]

then

echo "Saturday"

else

echo "Enter number between 1 to 7 only."

fi

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

# Read a number 1, 10n 100, 1000, etc and display unit ten, hundred,.......

#!/bin/bash

read -p "Enter any number to read: " Num

if [ $Num -ge 1000 ]

then

echo "Thousands"

elif [ $Num -ge 100 ]

then

echo "Hundreds"

elif [ $Num -ge 10 ]

then

echo "Tens"

else

echo "Units"

fi

4. Enter 3 Numbers do following arithmetic operation and find the one that is maximum and minimum

1. a + b \* c 3. c + a / b

2. a % b + c 4. a \* b + c

#!bin/bash

read -p "Enter Number a: " a

read -p "Enter Number b: " b

read -p "Enter Number c: " c

val1=$((a+(b\*c)))

val2=$((a%(b+c)))

val3=$((c+(a/b)))

val4=$(((a\*b)+c))

#To find maximum value

if [ $val1 -ge $val2 ] && [ $val1 -ge $val3 ] && [ $val1 -ge $val4 ]

then

echo "Maximum value is: "$val1

elif [ $val2 -ge $val1 ] && [ $val2 -ge $val3 ] && [ $val2 -ge $val4 ]

then

echo "Maximum value is: "$val2

elif [ $val3 -ge $val1 ] && [ $val3-ge $val2 ] && [ $val3 -ge $val4 ]

then

echo "Maximum value is: "$val3

else

echo "Maximum value is: "$val4

fi

#To find minimum value

if [ $val1 -le $val2 ] && [ $val1 -le $val3 ] && [ $val1 -le $val4 ]

then

echo "Minimum value is: "$val1

elif [ $val2 -le $val1 ] && [ $val2 -le $val3 ] && [ $val2 -le $val4 ]

then

echo "Minimum value is: "$val2

elif [ $val3 -le $val1 ] && [ $val3-le $val2 ] && [ $val3 -le $val4 ]

then

echo "Minimum value is: "$val3

else

echo "Minimum value is: "$val4

fi

**Selection Practice Problems with case statement**

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

#!/bi/bash

read -p "Enter any Single digit number: " Num

case $Num in

0) echo "Zero";;

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 "please enter only single digit number"

esac

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

#!/bin/bash

read -p "Enter any number between 1 to 7: " Num

case $Num in

1) echo "Sunday";;

2) echo "Monday";;

3) echo "Tuesday";;

4) echo "Wednesday";;

5) echo "Thursday";;

6) echo "Friday";;

7) echo "Saturday";;

\*) echo "Enter number between 1 to 7 only.."

esac

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

#!/bin/bash

read -p "Enter any number: " Num

case $Nun in

1000) echo "Thousands";;

100) echo "Hundreds";;

10) echo "Tens";;

1) echo "Units";;

\*) echo "Can't Predict";;

esac

4. Write a program that takes User Inputs and does Unit Conversion of different Length units

1. Feet to Inch 3. Inch to Feet

2. Feet to Meter 4. Meter to Feet

#!/bin/bash

read -p "Enter unit: " unit

echo "\n1. Feet to Inch\n2. Feet to Meter\n3. Inch to Feet\n4. Meter to Feet:\n"

read -p"Enter your choice:" choice

case $choice in

1)echo "Feet to Inch: "$(($unit\*12));;

2)echo "Feet to MEter: "$(($(($unit\*3))/10));;

3)echo "Inch to Feet: "$(($unit/12));;

4)echo "Meter to Feet: "$(($(($unit/3))\*10));;

\*)echo "Invalid input";;

esac