Sequences Practice Problems

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

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ single_digit_random=$(( RANDOM % 10 ))
echo $single_digit_random
9
```

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

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ dice=$(( RANDOM % 6 + 1 ))

Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ echo $dice
3
```

3. Add two Random Dice Number and Print the Result

```
  GNU nano 6.4                                    2diceAdd.sh
dice_1=$(( RANDOM % 6 + 1 ))
dice_2=$(( RANDOM % 6 + 1 ))
result=$(( dice_1 + dice_2 ))

echo "Dice 1: $dice_1"
echo "Dice 2: $dice_2"
echo "Result: $result"
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ sh 2diceAdd.sh
Dice 1: 1
Dice 2: 1
Result: 2
```

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

```
  GNU nano 6.4                          5RandomNumbersSumAverage.sh
sum=0
count=5

for ((i=1; i<=count; i++)); do
  random_number=$(( RANDOM % 90 + 10 ))
  echo "Random number $i: $random_number"
  sum=$(( sum + random_number ))
done

average=$(( sum / count ))

echo "Sum: $sum"
echo "Average: $average"
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ sh 5RandomNumbersSumAverage.sh
Random number 1: 18
Random number 2: 86
Random number 3: 51
Random number 4: 56
Random number 5: 76
Sum: 287
Average: 57
```

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

```
  GNU nano 6.4                          inchFeet.sh
inches=42
feet=$((inches / 12))
remaining_inches=$((inches % 12))
echo "42 inches = $feet ft and $remaining_inches inches"
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ sh inchFeet.sh
42 inches = 3 ft and 6 inches
```

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

```
  GNU nano 6.4                          plot6040_2.sh
length_ft=60
width_ft=40
ft_to_meter=0.3048

length_m=$(awk "BEGIN {print $length_ft * $ft_to_meter}")
width_m=$(awk "BEGIN {print $width_ft * $ft_to_meter}")

echo "Rectangular plot = $length_m meters x $width_m meters"
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ sh plot6040_2.sh
Rectangular plot = 18.288 meters x 12.192 meters
```

c. Calculate area of 25 such plots in acres

```
  GNU nano 6.4                            area25.sh
length_ft=60
width_ft=40
num_plots=25
sqft_to_acre=43560.0

area_sqft=$(awk "BEGIN {print $length_ft * $width_ft}")
total_area_sqft=$(awk "BEGIN {print $area_sqft * $num_plots}")
total_area_acre=$(awk "BEGIN {print $total_area_sqft / $sqft_to_acre}")

echo "Area of 25 plots in acres = $total_area_acre acres"
```

```
Shri@PRODUCTIVITY-4 MINGW64 ~/Testing_Bridge/linux-content (master)
$ sh area25.sh
Area of 25 plots in acres = 1.37741 acres
```