Assignment 6

```c
// 1. WAP in C to count the digits of a given number using recursion.

#include <stdio.h>
int count = 0;

int countDigits(int n){
    if(n!=0){
        n = n/10;
        count = count + 1;
        countDigits(n);
    }
    else{
        return count;
    }
}

int main(){
    int number;
    printf("Enter a number : ");
    scanf("%d", &number);

    printf("Number of digits : %d", countDigits(number));
    return 0;
}
```

Output :-

```
Enter a number : 125
Number of digits : 3
```

```c
// 2. WAP in C to print the array elements using recursion.

#include <stdio.h>
int index = 0;

int arrayValueThrower(int array[]){
    printf("%d\n", array[index]);
    index += 1;
    if(index<5){
        arrayValueThrower(array);
    }
    else{
        return 0;
    }
}

int main(){
    int arr[5] = {1,2,3,4,5};
    arrayValueThrower(arr);
    return 0;
}
```

Output :-

```
1
2
3
4
5
```

```c
// 3. WAP in C to print the fibonacci series using recursion.

#include <stdio.h>
int new = 0;

int printTerm(int a, int b, int index){
    new = a+b;
    printf(" %d", new);
    a=b;
    b=new;
    if(index>1){
        index -= 1;
        printTerm(a, b, index);
    }
    else{
        return 0;
    }

}

int main(){
    int terms;

    printf("No. of terms : ");
    scanf("%d", &terms);

    if(terms>=3){
        printf("0 1");
        printTerm(0, 1, terms-2);
    }

    return 0;
}
```

Output :-

```
No. of terms : 10
0 1 1 2 3 5 8 13 21 34
```