Find the Frequency of Characters

```c
#include <stdio.h>

int main()

{

   char str[1000], ch;

   int i, frequency = 0;

   printf("Enter a string: ");

   gets(str);

   printf("Enter a character to find the frequency: ");

   scanf("%c",&ch);

   for(i = 0; str[i] != '\0'; ++i)

   {

       if(ch == str[i])

           ++frequency;

   }

   printf("Frequency of %c = %d", ch, frequency);

   return 0;

}
```

Program to Check Vowel or consonant

```c
#include <stdio.h>

int main()

{

    char c;

    int isLowercaseVowel, isUppercaseVowel;

    printf("Enter an alphabet: ");

    scanf("%c",&c);
```

```
    // evaluates to 1 (true) if c is a lowercase vowel
    isLowercaseVowel = (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u');
    // evaluates to 1 (true) if c is an uppercase vowel
    isUppercaseVowel = (c == 'A' || c == 'E' || c == 'I' || c == 'O' || c == 'U');
    // evaluates to 1 (true) if either isLowercaseVowel or isUppercaseVowel is true
    if (isLowercaseVowel || isUppercaseVowel)
        printf("%c is a vowel.", c);
    else
        printf("%c is a consonant.", c);
    return 0;
}
```

Program to count vowels, consonants etc.

```
#include <stdio.h>
int main()
{
    char line[150];
    int i, vowels, consonants, digits, spaces;
    vowels =  consonants = digits = spaces = 0;
    printf("Enter a line of string: ");
    scanf("%[^\n]", line);
    for(i=0; line[i]!='\0'; ++i)
    {
        if(line[i]=='a' || line[i]=='e' || line[i]=='i' ||
           line[i]=='o' || line[i]=='u' || line[i]=='A' ||
```

```
           line[i]=='E' || line[i]=='I' || line[i]=='O' ||
           line[i]=='U')
        {
            ++vowels;
        }
        else if((line[i]>='a'&& line[i]<='z') || (line[i]>='A'&&
line[i]<='Z'))
        {
            ++consonants;
        }
        else if(line[i]>='0' && line[i]<='9')
        {
            ++digits;
        }
        else if (line[i]==' ')
        {
            ++spaces;
        }
    }
    printf("Vowels: %d",vowels);
    printf("\nConsonants: %d",consonants);
    printf("\nDigits: %d",digits);
    printf("\nWhite spaces: %d", spaces);
    return 0;
}
```

Remove Characters in String Except Alphabets

```c
#include<stdio.h>

int main()

{

    char line[150];

    int i, j;

    printf("Enter a string: ");

    gets(line);

    for(i = 0; line[i] != '\0'; ++i)

    {

        while (!( (line[i] >= 'a' && line[i] <= 'z') || (line[i]
>= 'A' && line[i] <= 'Z') || line[i] == '\0') )

        {

            for(j = i; line[j] != '\0'; ++j)

            {

                line[j] = line[j+1];

            }

            line[j] = '\0';

        }

    }

    printf("Output String: ");

    puts(line);

    return 0;

}
```

Check Armstrong Number of three digits

```c
#include <stdio.h>

int main()
```

```
{
    int number, originalNumber, remainder, result = 0;
    printf("Enter a three digit integer: ");
    scanf("%d", &number);
    originalNumber = number;
    while (originalNumber != 0)
    {
        remainder = originalNumber%10;
        result += remainder*remainder*remainder;
        originalNumber /= 10;
    }
    if(result == number)
        printf("%d is an Armstrong number.",number);
    else
        printf("%d is not an Armstrong number.",number);
    return 0;
}
```

Check Armstrong Number of n digits

```
#include <stdio.h>
#include <math.h>
int main()
{
    int number, originalNumber, remainder, result = 0, n = 0 ;
    printf("Enter an integer: ");
    scanf("%d", &number);
     originalNumber = number;
```

```
    while (originalNumber != 0)
    {
        originalNumber /= 10;
        ++n;
    }
    originalNumber = number;
    while (originalNumber != 0)
    {
        remainder = originalNumber%10;
        result += pow(remainder, n);
        originalNumber /= 10;
    }
    if(result == number)
        printf("%d is an Armstrong number.", number);
    else
        printf("%d is not an Armstrong number.", number);
    return 0;
}
```

Armstrong Numbers Between Two Integers

```
#include <stdio.h>
#include <math.h>
int main()
{
    int low, high, i, temp1, temp2, remainder, n = 0, result = 0;
    printf("Enter two numbers(intervals): ");
    scanf("%d %d", &low, &high);
```

```
    printf("Armstrong numbers between %d an %d are: ", low, high);
    for(i = low + 1; i < high; ++i)
    {
        temp2 = i;
        temp1 = i;
        // number of digits calculation
        while (temp1 != 0)
        {
            temp1 /= 10;
            ++n;
        }
        // result contains sum of nth power of its digits
        while (temp2 != 0)
        {
            remainder = temp2 % 10;
            result += pow(remainder, n);
            temp2 /= 10;
        }
        // checks if number i is equal to the sum of nth power of
its digits
        if (result == i) {
            printf("%d ", i);
        }
        // resetting the values to check Armstrong number for next
iteration
        n = 0;
        result = 0;
    }
```

```
    return 0;
}
```