// Q.1) Write a program to calculate the length of the string. (without using built-in method)

#include<stdio.h>

int main()

{

char str[20];

int i = 0;

printf("Enter String = ");

fgets(str,20,stdin);

for(i = 0; (str[i] != 10) && (str[i] != '\0'); ++i);

printf("\nString length = %d", i);

}

// Q.2) Write a program to count the occurrence of a given character in a given string.

#include<stdio.h>

int main()

{

char str[20];

char store[20];

int count = 0;

printf("Enter String = ");

fgets(str,20,stdin);

for(int i=0; (str[i] != 10) && (str[i] != '\0'); i++)

{

if(str[i] != store[i])

{

store[i] = str[i];

count = count + 1;

for(int j=i+1; (str[j] != 10) && (str[j] != '\0'); j++)

{

if(str[i] == str[j])

{

store[j] = str[j];

count = count + 1;

}

}

printf("%c = %d\n", str[i], count);

count = 0;

}

}

}

// Q.3) Write a program to count vowels in a given string

#include<stdio.h>

#include<string.h>

int main()

{

char str[200];

int count = 0;

printf("Enter String = ");

fgets(str,200,stdin);

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

{

if(str[i]=='a' || str[i]=='A')

count = count + 1;

else if(str[i]=='e' || str[i]=='E')

count = count + 1;

else if(str[i]=='i' || str[i]=='I')

count = count + 1;

else if(str[i]=='o' || str[i]=='O')

count = count + 1;

else if(str[i]=='u' || str[i]=='U')

count = count + 1;

}

printf("\nTotal vowels = %d", count);

}

// Q.4) Write a program to convert a given string into uppercase

#include<stdio.h>

int main()

{

char str[200];

int count = 0;

printf("Enter String = ");

fgets(str,200,stdin);

for(int i=0; (str[i] != 10) && (str[i] != '\0'); i++)

if((str[i] >= 97) && (str[i] <= 122))

str[i] = str[i] - 32 ;

printf("\n%s",str);

}

// Q.5) Write a program to convert a given string into lowercase

#include<stdio.h>

int main()

{

char str[200];

char rev[200];

printf("Enter String = ");

fgets(str,200,stdin);

for(int i=0; (str[i] != 10) && (str[i] != '\0'); i++)

if((str[i] >= 65) && (str[i] <= 90))

str[i] = str[i] + 32 ;

printf("\n%s",str);

}

// Q.6) Write a program to reverse a string.

#include<stdio.h>

int main()

{

char str[200];

char rev[200];

char demo[]="abc";

int i=0, j=0;

printf("Enter String = ");

fgets(str,200,stdin);

for(;(str[i] != 10) && (str[i] != '\0'); i++);

while(i>=0)

{

rev[j] = str[i];

j = j + 1;

i = i - 1;

}

printf("%s",rev);

}

// Q.7) Write a program in C to count the total number of alphabets, digits and special characters in a string.

#include<stdio.h>

int main()

{

char str[200];

int alph = 0, dgt = 0, spcl = 0, i = 0;

printf("Enter String = ");

fgets(str,200,stdin);

for(;(str[i] != 10) && (str[i] != '\0'); i++)

{

if((str[i] >= 65 && str[i] <= 90) || (str[i] >= 97 && str[i] <= 122))

{

alph = alph + 1;

}

else if(str[i] >= 48 && str[i] <= 57)

{

dgt = dgt + 1;

}

else if((str[i] >= 33 && str[i] <= 47) || (str[i] >= 58 && str[i] <= 64) || (str[i] >= 91 && str[i] <= 96) || (str[i] >= 123 && str[i] <= 126))

{

spcl = spcl + 1;

}

}

printf("alphabets = %d\n", alph);

printf("digits = %d\n", dgt);

printf("special character = %d\n", spcl);

}

// Q.8) Write a program in C to copy one string to another string.

#include<stdio.h>

int main()

{

char str1[200];

char str2[200];

int i = 0;

printf("Enter String 1 = ");

fgets(str1,200,stdin);

printf("Enter String 2 = ");

fgets(str2,200,stdin);

for(;(str1[i] != 10) && (str1[i] != '\0'); i++);

for(int j = 0;(str2[j] != 10) && (str2[j] != '\0'); j++, i++)

{

str1[i] = str2[j];

}

printf("\nfinal string = %s", str1); }

// Q.9) Write a C program to sort a string array in ascending order.

#include<stdio.h>

int main()

{

char str[200];

printf("Enter String = ");

fgets(str,200,stdin);

for(int i = 0; (str[i] != 10) && (str[i] != '\0'); i++)

{

for(int j = i + 1; (str[j] != 10) && (str[j] != '\0'); j++)

{

if(str[i] > str[j])

{

char tmp = str[j];

str[j] = str[i];

str[i] = tmp;

}

}

}

printf("%s",str);

}

// Q.10) Write a program in C to Find the Frequency of Characters.

#include<stdio.h>

int main()

{

char str[200], arr[150] = {0};

printf("Enter String = ");

fgets(str,200,stdin);

for(int i = 0; (str[i] != 10) && (str[i] != '\0'); i++)

{

arr[str[i]]++;

}

for(int i = 0; i<150; i++)

{

if(arr[i] != 0)

{

printf("%c = %d\n", i, arr[i]);

}

}

}