***Strings:-***

**------------------------------------------------------------------------------------------**

1) Write a program to find string length using pointer.

Ans:

**#include<stdio.h>**

**int \_strlen(const char \*);**

**void main()**

**{**

**char s[100],len;**

**printf("Enter the string :");**

**scanf("%[^\n]",s);**

**len=\_strlen(s);**

**printf("String length = %d\n",len);**

**}**

**int \_strlen(const char \*p)**

**{**

**static int i;**

**for(i=0;p[i];i++);**

**return i;**

**}**

2) Write a one line code to copy the string into another buffer.

Ans:

**#include<stdio.h>**

**void main()**

**{**

**char s[100],d[100],i;**

**printf("Enter the string : ");**

**scanf("%[^\n]",s);**

**for(i=0;s[i];d[i]=s[i],i++);**

**d[i]=s[i];**

**printf("String in s : %s\nString in d : %s\n",s,d);**

**}**

3) Write a program to find the no. of times the character is found in a given string.

Ans:

**#include<stdio.h>**

**int \_strchr\_cnt(const char \*,char);**

**void main()**

**{**

**int cnt;**

**char s[100],ch;**

**printf("Enter the string :");**

**scanf("%[^\n]",s);**

**printf("Enter the charactor :");**

**scanf(" %c",&ch);**

**cnt=\_strchr\_cnt(s,ch);**

**printf("%c Found %d time's in string\n",ch,cnt);**

**}**

**int \_strchr\_cnt(const char \*sp,char ch)**

**{**

**int cnt=0,i;**

**for(i=0;sp[i];i++)**

**if(sp[i]==ch)**

**cnt++;**

**return cnt;**

**}**

4) Write a program to find vowels in a given string.

Ans:

**#include<stdio.h>**

**int vowels\_cnt(const char \*);**

**void main()**

**{**

**char s[100],cnt;**

**printf("Enter the string : ");**

**scanf("%[^\n]",s);**

**cnt=vowels\_cnt(s);**

**printf("\n%d Vowel's are found in string \n",cnt);**

**}**

**int vowels\_cnt(const char \*sp)**

**{**

**int cnt,i;**

**for(i=0,cnt=0;sp[i];i++)**

**{**

**switch(sp[i])**

**{**

**case 'a': printf("%c ",sp[i]); cnt++; break;**

**case 'e': printf("%c ",sp[i]); cnt++; break;**

**case 'i': printf("%c ",sp[i]); cnt++; break;**

**case 'o': printf("%c ",sp[i]); cnt++; break;**

**case 'u': printf("%c ",sp[i]); cnt++; break;**

**case 'A': printf("%c ",sp[i]); cnt++; break;**

**case 'E': printf("%c ",sp[i]); cnt++; break;**

**case 'I': printf("%c ",sp[i]); cnt++; break;**

**case 'O': printf("%c ",sp[i]); cnt++; break;**

**case 'U': printf("%c ",sp[i]); cnt++; break;**

**}**

**}**

**return cnt;**

**}**

5) Write a program to compare two strings without using strcmp function.

Ans:

**#include<stdio.h>**

**int \_strcmp(const char \*,const char \*);**

**void main()**

**{**

**char s1[100],s2[100],i;**

**printf("Enter frist string :");**

**scanf(" %[^\n]",s1);**

**printf("Enter second string:");**

**scanf(" %[^\n]",s2);**

**i=\_strcmp(s1,s2); // fucntion return's 0 when s1 s2 same, return 1 when s1 grether than s2, and -1 when s1 is less than s2**

**printf("return value of function %d\n",i);**

**if(i==0)**

**printf("Both string are same\n");**

**else**

**printf("Both string are diffrent\n");**

**}**

**int \_strcmp(const char \*s1,const char \*s2)**

**{**

**int ret,i,sum=0,s1\_sum=0,s2\_sum=0;**

**for(i = 0 ; s1[i] || s2[i] ; i++)**

**{**

**if(s1[i]==s2[i])**

**continue;**

**else if(s1[i]>s2[i])**

**{**

**s1\_sum += 1;**

**continue;**

**}**

**else if(s2[i]>s1[i])**

**{**

**s2\_sum += 1;**

**continue;**

**}**

**}**

**sum=sum+s1\_sum+s2\_sum;**

**if(sum != 0)**

**if(s1\_sum>s2\_sum)**

**return 1;**

**else**

**return -1;**

**return sum;**

**}**

6) Write a program to reverse the string using loops & recursion.

Ans:

**#include<stdio.h>**

**#include<string.h>**

**void rever\_str(char \*,int,int);**

**void main()**

**{**

**char s[25],len,i=0;**

**printf("Enter the string :");**

**scanf("%[^\n]",s);**

**len=strlen(s);**

**printf("Before revesing: %s\n",s);**

**rever\_str(s,i,len-1);**

**printf("After revesing : %s\n",s);**

**}**

**void rever\_str(char \*p,int i,int len)**

**{**

**char t;**

**t=p[i];**

**p[i]=p[len-i];**

**p[len-i]=t;**

**if(i==len/2)**

**return;**

**rever\_str(p,i+1,len);**

**}**

7) Write a program to check the given strings are palindrome or not.

**Note:** Palindrome words are words which read and spell the same way both backwards

and forwards. Some examples,

madam, level , radar, stats and etc.

Ans:

**#include<stdio.h>**

**#include<string.h>**

**void rever\_str(char \*,int,int);**

**void main()**

**{**

**char s1[25],s2[25],len,i=0;**

**printf("Enter the string :");**

**scanf("%[^\n]",s1);**

**len=strlen(s1);**

**printf("string 1: %s\n",s1);**

**strcpy(s2,s1);**

**rever\_str(s2,i,len-1);**

**printf("string 2: %s\n",s2);**

**if(strcmp(s1,s2)==0)**

**printf("'%s' is palidrom\n",s1);**

**else**

**printf("'%s' is not palidrom\n",s1);**

**}**

**void rever\_str(char \*p,int i,int len)**

**{**

**char t;**

**t=p[i];**

**p[i]=p[len-i];**

**p[len-i]=t;**

**if(i==len/2)**

**return;**

**rever\_str(p,i+1,len);**

**}**

8) Write a program to find the no. of words are presented in a given string line.

**Note:** User has to input the string line at runtime.

Ans:

**#include<stdio.h>**

**#include<string.h>**

**int word\_cnt(const char \*);**

**void main()**

**{**

**char s[1000];**

**int cnt;**

**printf("Enter the string : ");**

**scanf("%[^\n]",s);**

**cnt=word\_cnt(s);**

**printf("%d numbers of words are present in string\n",cnt);**

**}**

**int word\_cnt(const char \*sp)**

**{**

**int i;**

**if(\*sp == '\t')**

**{**

**printf("Please Enter valid string\n");**

**return 0;**

**}**

**if(\*sp == ' ')**

**return (word\_cnt(sp+1));**

**else if(\*sp != ' ' && \*sp)**

**{**

**for(i=0;sp[i] != ' ' && sp[i] != '\0';i++);**

**}**

**else**

**return 0;**

**return 1+(word\_cnt(sp+i+1));**

**}**

9) Write a program to delete a desired character in a given string.

**Ex:** Input: embedded

Character: ’d’

Output: embee

**Ans:**

**#include<stdio.h>**

**void main()**

**{**

**char s[25],ch,i,j;**

**printf("Enter the string :");**

**scanf("%[^\n]",s);**

**printf("Enter the latter :");**

**scanf(" %c",&ch);**

**printf("Before deleting latter string : %s\n",s);**

**for(i=0;s[i];i++)**

**{**

**if(s[i]==ch)**

**{**

**for(j=i;s[j];j++)**

**s[j]=s[j+1];**

**i--;**

**}**

**}**

**printf("After deleting latter string : %s\n",s);**

**}**

10) Write a program to remove the conjucutive spaces in a given string line.

**Ex:** Input: Vector India Pvt Ltd

Output: Vector India Pvt Ltd;

Ans:

**#include<stdio.h>**

**#define RED "\x1b[31m"**

**#define RST "\x1b[0m"**

**void main()**

**{**

**char s[1000],i,j,cnt=0,ch\_s=' ';**

**printf("Enter the string :");**

**scanf(" %[^\n]s",s);**

**printf("Before deleting latter string :%s\n",s);**

**for(i=0;s[i];i++)**

**{**

**if(s[i] == '\t')**

**s[i]=ch\_s;**

**if(s[i] == ' ')**

**{**

**cnt++;**

**if(cnt>1)**

**{**

**for(j=i;s[j];j++)**

**s[j]=s[j+1];**

**i--;**

**}**

**}**

**else**

**cnt=0;**

**}**

**printf("After deleting latter string :"RED"\"%s\""RST"\n",s);**

**}**

11) Write a program to delete the duplicate characters in a given string.

**Ex:** Input: **vecteeovvorr**

Output: **vector**

Ans:

**#include<stdio.h>**

**void main()**

**{**

**char s[25],ch,i,j;**

**printf("Enter the string :");**

**scanf("%[^\n]",s);**

**printf("Before deleting latter string : %s\n",s);**

**for(i=0;s[i];i++)**

**{**

**if(s[i]==s[i+1])**

**{**

**for(j=i;s[j];j++)**

**s[j]=s[j+1];**

**i--;**

**}**

**}**

**printf("After deleting latter string : %s\n",s);**

**}**

12) Write a program to print the count of duplicate characters in a given string.

**Ex:** Input: **“hrithik roshan”**

Output: Letter ------- Count

h ------- 3

r ------- 2

I ------- 2

Ans:

**#include<stdio.h>**

**#include<string.h>**

**int main()**

**{**

**char str[250];;**

**int counts[256] = { 0 };**

**int i,len;**

**puts("Enter the string");**

**gets(str);**

**len = strlen(str);**

**printf("String length = %d\n",len);**

**for (i = 0; i < len; i++)**

**{**

**counts[(int)(str[i])]++;**

**}**

**for (i = 0; i < 256; i++)**

**{**

**if(counts[i]>0)**

**printf("%c occurs %d times.\n", i , counts[i]);**

**}**

**return 0;**

**}**

13) Write a program to find count of Lower characters, Upper characters, Special characters and digits occurred in a given string.

Ans:

**#include<stdio.h>**

**void check\_string(const char \*);**

**void main()**

**{**

**static char s[100];**

**printf("Enter the string : ");**

**scanf("%[^\n]",s);**

**check\_string(s);**

**}**

**void check\_string(const char \*sp)**

**{**

**int i,l=0,u=0,d=0,ss=0;**

**for(i=0;sp[i];i++)**

**{**

**if(sp[i]>='a' && sp[i]<='z')**

**l++;**

**else if(sp[i]>='A' && sp[i]<='Z')**

**u++;**

**else if(sp[i]>='0' && sp[i]<='9')**

**d++;**

**else**

**ss++;**

**}**

**printf("lower charactor = %d\nupper charactor = %d\ndigit = %d\nspecial symbol = %d (Including Space's)\n",l,u,d,ss);**

**}**

14) Write a program to convert the characters Upper to Lower and Lower to Upper in a given string.

Ans:

**#include<stdio.h>**

**char \*change\_case(char \*);**

**void main()**

**{**

**char s[100];**

**printf("Enter the string :");**

**scanf("%[^\n]",s);**

**printf("Defore case Change : %s\n",s);**

**change\_case(s);**

**printf("After case Change : %s\n",s);**

**}**

**char \*change\_case(char \*sp)**

**{**

**int i;**

**for(i=0;sp[i];i++)**

**{**

**if(sp[i]==' ')**

**continue;**

**if(sp[i]>>5&1)**

**sp[i]=sp[i]^1<<5;**

**else**

**sp[i]=sp[i]^1<<5;**

**}**

**}**

15) Write a program to sort a given string in ascending order.

Ans:

**#include<stdio.h>**

**void main()**

**{**

**char str[100],i,j,t;**

**printf("Enter the string :");**

**scanf(" %[^\n]",str);**

**printf("Before sorting \"%s\"\n",str);**

**for(i=0;str[i];i++)**

**{**

**for(j=i+1;str[j];j++)**

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

**{**

**t=str[i];**

**str[i]=str[j];**

**str[j]=t;**

**}**

**}**

**printf("After sorting \"%s\"\n",str);**

**}**

16) Write a program to accept two strings from user into two character array and copy one by one character into another destination array.

Ex: First String: “abcdefg”

Second String: “1234”

Then Destination String is “a1b2c3d4efg”

Ans:

**#include<stdio.h>**

**void main()**

**{**

**static char s1[25],s2[25],s3[50];**

**int i,j;**

**printf("Enter the s1 string :");**

**scanf(" %[^\n]",s1);**

**printf("Enter the s2 string :");**

**scanf(" %[^\n]",s2);**

**for(i=0,j=0;s1[i]||s2[i];i++)**

**{**

**if(s1[i])**

**{**

**s3[j]=s1[i];**

**j++;**

**}**

**if(s2[i])**

**{**

**s3[j]=s2[i];**

**j++;**

**}**

**}**

**printf("Frist string : \"%s\"\nSecnond string : \"%s\"\n Destination String : \"%s\"\n",s1,s2,s3);**

**}**

17) Write a program to find the no. of times substring is found in a given string.

Ans:

**#include<stdio.h>**

**#include<string.h>**

**void main()**

**{**

**char str[250],sub\_str[25], \*ptr;**

**int cnt=0,ss\_len;**

**printf("Enter the string :");**

**gets(str);**

**printf("Enter the string which you want to search :");**

**gets(sub\_str);**

**ss\_len=strlen(sub\_str);**

**for(ptr=str; (ptr=strstr(ptr,sub\_str)); ptr+=ss\_len)**

**cnt++;**

**printf("In String \"%s\", Sub String \"%s\" is Found %d times\n",str,sub\_str,cnt);**

**}**

18) Write a program to reverse the words in a given string line.

**Ex:** “I am a good boy”

“I ma a doog yob”

Ans:

**#include<stdio.h>**

**#include<string.h>**

**void main()**

**{**

**int i=0,j=0,len,r=0,c=0,x;**

**char str[250],s[20][50],temp;**

**printf("Enter the string :");**

**gets(str);**

**for(i=0;str[i];i++)**

**{**

**if(str[i] == ' ')**

**{**

**s[r][c]='\0';**

**r++;**

**c=0;**

**}**

**else**

**{**

**s[r][c]=str[i];**

**c++;**

**}**

**}**

**s[r][c]='\0';**

**for(i=0;i<=r;i++)**

**{**

**len=strlen(s[i]);**

**for(j=0,x=len-1;j<x;j++,x--)**

**{**

**temp=s[i][j];**

**s[i][j]=s[i][x];**

**s[i][x]=temp;**

**}**

**}**

**for(i=0;i<=r;i++)**

**printf("%s ",s[i]);**

**printf("\n");**

**}**

**OR**

**#include<stdio.h>**

**void main()**

**{**

**char s[100]="my name is kishor";**

**int i,j,k;**

**for(i=0;s[i];i++)**

**{**

**if(s[i]!=' ' && s[i]!='\0')**

**{**

**j=i;**

**i++;**

**while(s[i]!=' ' && s[i]!='\0')**

**i++;**

**k=i-1;**

**}**

**while(j<k)**

**{**

**s[j]=s[j]+s[k]-(s[k]=s[j]);**

**j++;**

**k--;**

**}**

**}**

**printf("%s",s);**

**}**

19) Write a program to replace the words in reverse order in a given string line.

**Ex:** Input: **“world changed your thoughts”**

Output: **“thoughts your changed world”**

Ans:

**#include<stdio.h>**

**#include<string.h>**

**void print\_upto\_space(const char \*);**

**void reverse\_print(const char \*);**

**void main()**

**{**

**int i,j;**

**char str[250];**

**printf("Enter the string :");**

**gets(str);**

**printf("Orignal string :");**

**puts(str);**

**printf("Reverse string :");**

**reverse\_print(str);**

**printf("\n");**

**}**

**void print\_upto\_space(const char \*s)**

**{**

**do{**

**putc(\*s, stdout);**

**}while(\*s++ != ' ');**

**}**

**void reverse\_print(const char \*s)**

**{**

**const char \*p = strchr(s,' ');**

**if(p == NULL)**

**{**

**printf("%s ",s);**

**}**

**else**

**{**

**reverse\_print(p+1);**

**print\_upto\_space(s);**

**}**

**}**

20) Write a program to read two strings through the keyboard like the following example and replace any word of the second string with the first string.

**Ex:** Input:- Fist String: “Tomorrow”

Second String: “Today is Sunday”

Replace word: “Today”.

Output:- “Tomorrow is Sunday”

Ans:

**#include<stdio.h>**

**#include<string.h>**

**#define RED "\x1b[31m"**

**#define RST "\x1b[0m"**

**void main()**

**{**

**int i,j,k,len\_s1,len\_s2,len\_rep,diff\_of;**

**char \*base\_s1,\*base\_s2,\*base\_rep,\*match\_at;**

**char \*ptr,s1[250],s2[250],dest[500],rep[50],temp[50];**

**printf("Enter the frist string :");**

**gets(s1);**

**printf("Enter the second string :");**

**gets(s2);**

**printf("which world you want to replace :");**

**gets(rep);**

**base\_s1=s1;**

**base\_s2=s2;**

**base\_rep=rep;**

**printf("------------------------------------------------------------------------\n");**

**printf("base\_s1 = %u\tbase\_s2 = %u\tbase\_rep = %u\n",base\_s1,base\_s2,base\_rep);**

**printf("------------------------------------------------------------------------\n");**

**len\_s1=strlen(s1);**

**len\_s2=strlen(s2);**

**len\_rep=strlen(rep);**

**printf("len of s1 = %d\tlen of s2 = %d\tlen of rep = %d\n",len\_s1,len\_s2,len\_rep);**

**printf("------------------------------------------------------------------------\n");**

**match\_at = strstr(s2,rep);**

**printf("match\_at = %u\n",match\_at);**

**printf("------------------------------------------------------------------------\n");**

**diff\_of = match\_at - base\_s2;**

**printf("Diffrence of = %d\n",diff\_of);**

**printf("------------------------------------------------------------------------\n");**

**for(i=0;i<diff\_of;i++)**

**dest[i]=s2[i];**

**for(j=0;s1[j];i++,j++)**

**dest[i]=s1[j];**

**k=diff\_of+len\_rep;**

**for(;s2[k];k++,i++)**

**dest[i]=s2[k];**

**dest[i]='\0';**

**printf("destination string is \""RED"%s"RST"\"\n",dest);**

**}**

21) Write a program to check given strings are anagram or not.

**Note:** Both strings are anagram, if both contains same elements, same no. of times in any order.

(Can have extra special characters & digits also)

**Ex:**  "Osama bin laden" , "Old man in a base" both are anagrams.

“study” , “**dus%@ty123**” both are anagrams.

Here after removing special characters and digits ----> **“ dusty “**.

Ans:

**#include <stdio.h>**

**int find\_anagram(char [], char []);**

**int main()**

**{**

**char array1[100], array2[100];**

**int flag;**

**printf("Enter the string\n");**

**gets(array1);**

**printf("Enter another string\n");**

**gets(array2);**

**flag = find\_anagram(array1, array2);**

**if (flag == 1)**

**printf("\"%s\" and \"%s\" are anagrams.\n", array1, array2);**

**else**

**printf("\"%s\" and \"%s\" are not anagrams.\n", array1, array2);**

**return 0;**

**}**

**int find\_anagram(char array1[], char array2[])**

**{**

**int num1[26] = {0}, num2[26] = {0}, i = 0;**

**while (array1[i] != '\0')**

**{**

**num1[array1[i] - 'a']++;**

**i++;**

**}**

**i = 0;**

**while (array2[i] != '\0')**

**{**

**num2[array2[i] -'a']++;**

**i++;**

**}**

**for (i = 0; i < 26; i++)**

**{**

**if (num1[i] != num2[i])**

**return 0;**

**}**

**return 1;**

**}**

22) Write a program for Decryption of a given Encrypted string line with respect to given key number.

The letter at position of the key and a multiple of key is interchanged with the next letter. Spaces and special characters are to be ignored. If the letter is the last one in the array, then no interchange is required.

Design a function called Decryptor to receive the Encrypted data from the main function and decrypt the data.

4 8 12 16 20 24 28 32 36

**Ex:**  Input String : **“Expcet Porblmes adn eat thef mor rbeafkast”.**

If Key : 4 then, 4 multiples ---> 4,8,12,16,20,24,28,32,36 these letters has to interchange with next

Characters.

Output String : **“Expect Problems and eat them for breakfast”.**

**Try this and Know it.**

Input String : “Our rgeaetst ewakenss iles ni giivng pu. thm eosc teratin awy ts ouceed si

alwyas tt ory ujst noe mroe tmie”.

Key : 4

**Output : ????????**

Ans:

**#include<stdio.h>**

**void main()**

**{**

**char s[1000],temp;**

**int c=0,k,i;**

**printf("enter ip string\n");**

**gets(s);**

**// puts(s);**

**printf("ente the key :");**

**scanf("%d",&k);**

**for(i=0;s[i];i++)**

**{**

**if(s[i]==' ' || (s[i]>='0' && s[i]<='9'))**

**continue;**

**else**

**c++;**

**if(c==k && s[i+1]!='\0')**

**{**

**temp=s[i];**

**if(s[i+1]==' ')**

**{**

**s[i]=s[i+2];**

**s[i+2]=temp;**

**}**

**else**

**{**

**s[i]=s[i+1];**

**s[i+1]=temp;**

**}**

**c=0;**

**}**

**}**

**printf("output string is\n");**

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

**}**

-------------------------------------- END --------------------------------------------

Dear students, If any mistakes found, kindly inform to me.

1. Tandava Ramakrishna.

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