C assignments – 2nd Oct-2022 and 3rd Oct 2022

Name – Shreyas Raju Awankar

**All the questions are typed in comments of the code.**

**2nd Oct-2022**

**Que.1**

// Write a program to create a user defined function to concat a string into another. (like strcat())

#include <stdio.h>

#include <string.h>

void strconcat(char \*s1, char \*s2)

{

    while (\*s1 != '\0')

    {

        s1++;

    }

    while (\*s2 != '\0')

    {

        \*s1 = \*s2;

        s1++;

        s2++;

    }

    \*s1 = '\0';

}

void main()

{

    char str1[] = "welcome";

    char str2[] = "hello";

    printf("String 1 before concatination --> ");

    puts(str1);

    strconcat(str1, str2);

    printf("String 1 after concatination --> ");

    puts(str1);

}

**Que.2**

// Write a program to create a userdefined function to copy a string into another. (like strcpy())

#include <stdio.h>

#include <string.h>

void strcopy(char \*s1, char \*s2){

    while(\*s2!='\0'){

        \*s1 = \*s2;

        s1++;

        s2++;

    }

    \*s1='\0';

}

void main(){

    char str1[]="welcome";

    char str2[]="hello";

    printf("String 1 before copying --> ");

    puts(str1);

    strcpy(str1,str2);

    printf("String 1 after copying --> ");

    puts(str1);

}

**Que.3**

// Write a program to create a user defined function to find the length of  a string. (like strlen())

#include <stdio.h>

#include <string.h>

int strlength(char \*s1)

{

    int c = 0;

    while (\*s1 != '\0')

    {

        c++;

        s1++;

    }

    \*s1 = '\0';

    return c;

}

void main()

{

    char str1[] = "welcome Shreyas Awankar";

    printf("The length of the string is %d ", strlength(str1));

}

**Que.4**

// Write a program to create a user defined function to convert a string into uppercase. (like strupr())

#include <stdio.h>

void upper(char \*s1)

{

    for (s1; \*s1 != '\0'; s1++)

    {

        if (\*s1 >= 'A' && \*s1 <= 'Z')

            \*s1 = \*(s1)+32;

    }

    \*s1 = '\0';

}

void main()

{

    char str1[] = "WELCOME TO ORLANDO";

    printf("The string in lowercase is --> ");

    puts(str1);

    upper(str1);

    printf("The string into uppercase is --> ");

    puts(str1);

}

**Que.5**

// Write a program to create a userdefined function to reverse a string.

#include <stdio.h>

#include <string.h>

void revstring(char \*str1)

{

    int i, len, temp;

    len = strlen(str1);

    for (i = 0; i < len / 2; i++)

    {

        temp = str1[i];

        str1[i] = str1[len - i - 1];

        str1[len - i - 1] = temp;

    }

}

int main()

{

    char str[50];

    printf("Enter the string: \n");

    gets(str);

    printf("\nString before reversing: %s \n", str);

    revstring(str);

    printf("String after reversing: %s", str);

}

**Que.6**

// Write a program to create a user defined function to convert a string into uppercase. (like strupr())

#include <stdio.h>

void upper(char \*s1)

{

    for (s1; \*s1 != '\0'; s1++)

    {

        if (\*s1 >= 'a' && \*s1 <= 'z')

            \*s1 = \*(s1)-32;

    }

    \*s1 = '\0';

}

void main()

{

    char str1[] = "Welcome Shreyas Awankar";

    printf("The string in lowercase is --> ");

    puts(str1);

    upper(str1);

    printf("The string into uppercase is --> ");

    puts(str1);

}

**Que.7**

/\* Write a program to read the password from the user check wheather its valid or not.

Conditions --

1.Password must be atleast 8 characters long.

2.Password must be maximum 13 characters long.

3.There should atleast be one uppercase charecter.

4.There should atleast be one lowercase charecter.

5.There should atleast be a special charecter in the password.

\*/

#include <stdio.h>

#include <string.h>

int passwordChecker(char s1[30])

{

    int k = 0, u = 0, d = 0, s = 0;

    if (strlen(s1) > 14)

        return 0;

    if (strlen(s1) < 9)

        return 0;

    for (int i = 0; i < strlen(s1); i++)

    {

        if (s1[i] >= 'a' && s1[i] <= 'z')

            k = 1;

        if (s1[i] >= 'A' && s1[i] <= 'Z')

            u = 1;

        if (s1[i] >= '0' && s1[i] <= '9')

            d = 1;

        if (s1[i] == '#' || s1[i] == '\_' || s1[i] == '@')

            s = 1;

    }

    if (k == 1 && u == 1 && d == 1 && s == 1)

        return 1;

    else

        return 0;

}

void main()

{

    char str1[30];

    printf("Enter your password\n");

    gets(str1);

    if (passwordChecker(str1) == 1)

        printf("Password is valid.");

    else

        printf("Your password dose not match either one or more of the following criterias.\n1.Password must be atleast 8 characters long.\n2.Password must be maximum 13 characters long.\n3.There should atleast be one uppercase charecter.\n4.There should atleast be one lowercase charecter.\n5.There should atleast be a special charecter in the password.\n6.Password must be atleast characters long.\n7.Password must be maximum 13 characters long.");

}

**3rd Oct-2022**

**Que.1**

// Write a program to create a userdefined strcmp function.

#include <stdio.h>

#include <string.h>

int strcompare(char \*s1, char \*s2)

{

    while (\*s1 != \*s2)

    {

        return \*s1 - \*s2;

        s1++;

        s2++;

    }

    return 0;

}

void main()

{

    char str1[30];

    char str2[30];

    printf("Enter the first string without space\n");

    gets(str1);

    printf("Enter the second string without space\n");

    gets(str2);

    if (strcompare(str1, str2) == 0)

        printf("Both strings are equal.");

    else

        printf("The ASCII value diference between first unmatched pair charecters is %d ", strcompare(str1, str2));

}

**Que.2**

// Write a program to read the string from user and count the words in it.

#include <stdio.h>

#include <string.h>

int word\_count = 0;

void main()

{

    char str[1000];

    char s[2] = {' '};

    printf("Enter your string\n");

    gets(str);

        strcat(s, str);

        for (int i = 0; i < strlen(s)-1; i++)

        {

            if (s[i] == ' ' && s[i + 1] != ' ')

            {

                word\_count++;

            }

        }

    printf("There are %d words in your string", word\_count);

}

**Que.3**

// Write a program to create a userdefined stricmp function.

#include <stdio.h>

#include <string.h>

int strcompare(char \*s1, char \*s2)

{

    while (\*s1 != \*s2)

    {

        if(\*s1==\*s2-32 || \*s1==\*s2+32){

        s1++;

        s2++;

        continue;

        }

        else{

        return \*s1 - \*s2;

        break;

        s1++;

        s2++;

        }

    }

    return 0;

}

void main()

{

    char str1[30];

    char str2[30];

    printf("Enter the first string without space\n");

    gets(str1);

    printf("Enter the second string without space\n");

    gets(str2);

    if (strcompare(str1, str2) == 0)

        printf("Both strings are equal.");

    else

        printf("The ASCII value diference between first unmatched pair charecters is %d ", strcompare(str1, str2));

}

**Que.4**

// Write a program to read the string from user and count the words in it and print the initials.

#include <stdio.h>

#include <string.h>

int word\_count = 0;

void main()

{

    char str[100];

    char s[2] = {' '};

    printf("Enter your string\n");

    gets(str);

        strcat(s, str);

        for (int i = 0; i < strlen(s)-1; i++)

        {

            if (s[i] == ' ' && s[i + 1] != ' ')

            {

                printf("%c ", s[i + 1]);

            }

        }

}

**Que.5**

// Write a program to read a string from the user and replace every space with '#'.

#include <stdio.h>

#include <string.h>

int word\_count = 0;

void main()

{

    char str[100];

    char s[2] = {' '};

    printf("Enter your string\n");

    gets(str);

        strcat(s, str);

        for (int i = 0; i < strlen(s)-1; i++)

        {

            if (s[i] == ' ' && s[i + 1] != ' ')

            {

                s[i + 1]='#';

            }

        }

        puts(s);

}

**Que.6**

// Write a program to reverse every word of the string.

#include <stdio.h>

#include <string.h>

int stringln(char s[]) {

   int i = 0;

   while(s[i]!='\0')

      i++;

   return i;

}

void stringrev(char st[]) {

   int i,j,len;

   char ch;

   j = len = stringln(st) - 1;

   i = 0;

   while(i < j) {

      ch = st[j];

      st[j] = st[i];

      st[i] = ch;

      i++;

      j--;

   }

}

void main () {

   char str1[1000];

   char reverse[100]="";

   char temp[50];

   int i,j,n;

   printf("Enter your string\n");

   gets(str1);

   n = stringln(str1);

   for(i = 0; i < n; i++) {

      for(j = 0; i < n && str1[i]!=' '; i++,j++) {

        temp[j] = str1[i];

      }

      temp[j] = '\0';

      stringrev(temp);

      strcat(reverse, temp);

      strcat(reverse, " ");

   }

   printf("String before reversing the words %s\n", str1);

  printf("\nstring after reversing the word: %s", reverse);

}

**…Thanks…**