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

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All the questions are typed in comments of the code.

2nd Oct-2022

Que.1

```c
// 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

```c
// 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

```c
// 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

```c
/* 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...