Assignment No.10

```
//user define function for strcpy()

#include<stdio.h>
#include<string.h>
void myStrcpy(char*,char*);
int main()
{
  char str1[10];
  char str2[20];
  printf("Enter string 1:");
  scanf("%s\n",str1);
  printf("String 1:%s\n String 2:%s\n",str1,str2);
  myStrcpy(str1,str2);



}

void myStrcpy(char* s1, char* s2)
{
        int i=0;
  while(s2[i]!='\0')
  {
        s1[i]=s2[i];
        i++;
  }
 s1[i]='\0';
}
```

2.//user define function for strlen

```
#include<stdio.h>
#include<string.h>
int calculateLength(char*);
int main()
{
	char str[10]="Firstbit";
	int length=calculateLength(str);
	printf("The string length is:%d\n",length);

}

int calculateLength(char* s1)
{

  int i=0,count=0;

	while(s1[i]!='\0')
	{
		count++;
		i++;
	}
	return count;
}
```

3. //strcat: concatenation of two string

```
#include<stdio.h>
#include<string.h>
void stringCat(char*,char*);
int main()
{
	char str1[10]="firstbit";
	printf("The string 1 is :%s",str1);

	char str2[20]="solution";
	printf("The string 2 is :%s",str2);

	int len1=strlen(str1);
	printf("The length of the string one is %d\n",len1);

	int len2=strlen(str2);
	printf("The length of the string two is %d\n",len2);

	stringCat(str1,str2);
	printf("After concatenation strings are\n");
	printf("String 1 is:%s \nstring 2 is:%s",str1,str2);


}

void stringCat(char *s1,char *s2)
{
	int len,i;
```

```
        len=len1(s1)+len2(s2);
        for(int i=0;i<=len2;i++)
        {
                s1[len1+i]=s2[i];

        }
        s1[len+1];

}
```

4. // strcmp:user define function for compare two string

```
#include<stdio.h>
#include<string.h>
int comapreString(char*,char*);
int main()
{
  char str1[50],str2[50];
  printf("Enter string:");
  scanf("%s",str1);

  printf("Enter string:");
  scanf("%S",str2);

  int comp=compareString(str1,str2);
    printf("%d",comp);
}



int compareString(char *s1,char *s2)
```

```
{
        int i=0;
        while(s1[i] !='\0' && s2[i] !='\0')
        {
                if(s1[i] !=s2[i])
                {
                  return 1;
           }
        i++;
   }

  if(s1[i]=='\0' && s2[i]=='\0')
  {
        return 0;
  }
  else
   {
        return -1;
        }
}
```

5. //mystrncpy:copies a specified number of character from one string to another.

```
#include<stdio.h>
#include<string.h>
char* mystrncpy(char*,char*,int);
int main()
{
  char src[]="Hello";
  char dest[10];
```

```
  mystrncpy(dest,src,10);
  printf("The copied string is:%s\n",dest);

}

char* mystrncpy(char *dest,char *src,int a)
{
  for(int i=0;i<a && src[i]!=0;i++)
   {
          dest[i]=src[i];

          }
          for(int i=0;i<a;i++)
          {
                  dest[i]='\0';
          }
          return dest;
}
```

6. //mystrupper

```
#include<stdio.h>
#include<string.h>
void mystrupper(char*);
int main()
{
  char str[20]="hello ,student";
  mystrupper(str);

  printf("Uppercase string :%s\n",str);
}
```

```
void mystrupper(char *str)
{
  int i=0;
  while(str[i] !='\0')
   {
          if(str[i]>='a' && str[i]<='z')
          {
                  str[i]=str[i]-('a'-'A');
                   }
                   i++;
                   }
}
```

7. //mystrlower

```
#include<stdio.h>
#include<string.h>
 void mystrlower(char*);
int main()
{
  char str[20]="PRoGRAMMINg";
  mystrlower(str);
  printf("The lower string is:%s",str);
}

void mystrlower(char *str)
{
          int i=0;
          while(str[i] !='\0')
           {
```

```
                if(str[i]>='A' && str[i]<='Z')
                {
                        str[i]=str[i]+('a'-'A');
                }
                i++;
        }
}
```

8. //mystrstr:searchea for the first occurence of a substring in a string

```
#include<stdio.h>
#include<string.h>
char* mystrstr(char*,char*);
int main()
{
        char str[20]="programming";
        char sub[10]="progra";
        char *result=mystrstr(str,sub);
        if(result !=NULL)
        {
                printf("Substring found %s\n",result);
        }
        else
        {
                printf("Subbstring not found\n");
        }
}

char* mystrstr(char *str,char *sub)
{
```

```
	int i,j;
	if(*str=='\0')
	{
		return(char*)str;
	}
	for(i=0;str[i] !='\0';i++)
	{
		for(j=0;sub[j] !='\0';j++)
		{
			if(str[i+j]=='\0')
			{
				return(char*)&str[i];
			}
			return NULL;
		}

	}
}
```

9. //mystrcasecmp:perfoms a case_insensitive string comparison similar to the standard strcasemp.

```
#include<stdio.h>
#include<string.h>
char toLower(char );
int mystrcasecmp(char*,char*);
voidmain()
{  char c;
	const char *str1="Hello";
	const char *str2="hello";
	toLower(c);
```

```
        int result=mystrcasecmp(str1,str2);
        if(result==0)
        {
                printf("Strings are equal(case-insensitive)\n");

        }
        else
        {
                printf("strings are not equal");
        }

}

char toLower(char c)
{
        if(c>='A' && c<='z')
        return c+('a'-'A');
        return c;
}
int mystrcasecmp(char *s1,const char *s2)
{
        while(*s1 && *s2)
        {

        char c1=toLower(*s1);
        char c2=toLower(*s2);

        if(c1!=c2)
         retun c1-c2;

         s1++;
```

```
            s2++;
   }
return toLower(*s1)-toLwer(*s2);
}
```

10. //myStrchr: which searches for the first occurence of a character in a string.

```
#include<stdio.h>
#include<string.h>
char* myStrchr(const char*,char);
int main()
{
        const char* str="Firstbit solution";
        char search='s';



        char *result=myStrchr(str,search);
          if(result!=NULL)
            {
                printf("Character '%c' found at position:%ld\n",search,result-str);

                }
                else
                {
                        printf("Character '%c' not found\n,search");
                }
                return 0;
}

char* myStrchr(const char *str,char search)
```

```
{
        while(str !='\0')
        {
                if(str==search)
                {
                        return(char*)str;
                }
                str++;
        }
        if(search=='\0')
        {
                return(char*)str;
        }
        return NULL;
}
```

11. //myStrncmp:this function compares the first n characters of two strings

```
#include<stdio.h>
#include<string.h>
int myStrncmp(char*,char*);
int main()
{

  char* s1="hello";
  char* s2="hello";
  int result= myStrncmp(s1,s2,3);

  if(result==0)
  {
        printf("first three characters are equal\n");
```

```
  }
  else if(result>0)
  {
        printf("First string is greater\n");
  }
  else
  {
        printf("Second string is greater\n");
  }

}

int myStrncmp(char *str1,char *str2,int size)
{
        while(size>0 && *str1 && *str2)
        {
                if(*str1 !=*str2)
                {
                        return(unsigned char)
                        (*str1)-(unsigned char)(*str2);
                }
                str1++;
                str2++;
                size--;
        }
        if(size>0)
        {
                return(unsigned char)(*str1)-(unsigned char)(*str2);
        }
        return 0;
}
```

12. //myStrnstr:this function searches first occurence o a substring within the first n characater

```
#include<stdio.h>
char* myStrnstr(char*,char*,int);
int main()
{
	char* text="hello,world";
	char* search="world";
	int n=12;
	char* result=myStrnstr(text,search,n);

	if(result!=NULL)
	{
		printf("Substring found:\%s\"\n",result);
	}
	else
	{
		printf("substring not found within the first %zu characters.\n",n);
	}
}

char* myStrnstr(char *str1,char *str2,int n)
{
  int i,j;

  if(str2=='\0')
  {
	return(char*)str1;
	  }
	  for(i=0;i<n && str1[i] !='\0';i++)
```

```
        {
                for(j=0;(i+j)<n && str2[j] !='\0';i++)
                {
                        if(str1[i+j]!=str1[j])
                        {
                                break;
                         }
                 }
                 if(str2[j]=='\0')
                 {
                        return(char*)(str1+i);
                 }
        }
}
```

13. //mystrncat:concatenates a specific number of characters from one string to another

```
#include<stdio.h>
char* myStrncat(char*,char*,int);
int main()
{
        char dest[50]="hello";
        char* src="world!";
        int n=3;

        myStrncat(dest,src,n);
        printf("resulting string %s\n",dest);
}

char* myStrncat(char *dest,char *src,int n)
```

```
{
  char* ptr=dest;

  while(*ptr !='\0')
  {
            ptr++;
             }
             while(n-- && *src !='\0')
             {
                       ptr++;
             }
             while(n--&&*src !='\0')
             {
                       *ptr++ = *src++;
             }
             *ptr='\0';
             return dest;
}
```

14. //myStrnacasecmp:compares the first characters of two string in a case-insensitive manner

```
#include<stdio.h>
#include<ctype.h>
int myStrncasecmp(char*,char*,int);
int main()
{
  char* str1="Helloworld";
  char* str2="helloworld";
  int n=5;

  int result=myStrncasecmp(str1,str2,n);
```

```
 if(result==0)
 {
        printf("First%zu characters are equal(case-insensitive).\n",n);
 }
 else if(result<0)
 {
        printf("str1 is less than str2(case-insensitive)\n");
 }
 else
 {
        printf("str1 is greater than str2(case-insensitive)\n");
 }

}

int myStrncasecmp(char* s1,char* s2,int n)
{
        unsigned char c1,c2;

        while(n-->0)
        {
                c1=(unsigned char)*s1++;
                c2=(unsigned char)*s2++;

                c1=tolower(c1);
                c2=tolower(c2);

                if(c1 !=c2)
                {
                        return c1-c2;
```

```
                }
                if(c1=='\0')
                {
                        break;
                }
        }
}
```