Name – Gajanan Purud

Assignment 10

Strings user define function

1. Write a user define functions for ::

a. mystrcpy b. mystrlen c. mystrcmp d. mystrcat e. mystrncpy f. mystrupper g. mystrlower h. mystrrev i. mystrstr j. mystrcasecmp k. mystrchr l. mystrrchr m. mystrncmp n. mystrnstr o. mystrncat p. mystrncasecmp

1. `mystrlen`

```
#include<stdio.h>
int mystrlen(const char *s){
int len=0;
while(s[len]!='\0')len++;
return len;
}
int main(){
char s[]="gajanan";
printf("Length: %d\n",mystrlen(s));
return 0;
}
```

---

2. `mystrcpy`

```
#include<stdio.h>
void mystrcpy(char *dest,const char *src){
while(*src)*dest++=*src++;
*dest='\0';
}
int main(){
char src[]="gajanan",dest[100];
mystrcpy(dest,src);
printf("Copy: %s\n",dest);
return 0;
}
```

---

3. `mystrcmp`

```
#include<stdio.h>
int mystrcmp(const char *s1,const char *s2){
while(*s1 && *s1==*s2){s1++;s2++;}
return *(unsigned char*)s1-*(unsigned char*)s2;
}
```

```
int main(){
printf("Compare: %d\n",mystrcmp("abc","abd"));
return 0;
}
```

---

4. `mystrcat`

```
#include<stdio.h>
void mystrcat(char *dest,const char *src){
while(*dest)dest++;
while(*src)*dest++=*src++;
*dest='\0';
}
int main(){
char a[100]="gajanan ",b[]="purud";
mystrcat(a,b);
printf("Concat: %s\n",a);
return 0;
}
```

---

5. `mystrncpy`

```
#include<stdio.h>
void mystrncpy(char *dest,const char *src,int n){
int i;
for(i=0;i<n && src[i]!='\0';i++)dest[i]=src[i];
for(;i<n;i++)dest[i]='\0';
}
int main(){
char src[]="gajanan",dest[100];
mystrncpy(dest,src,4);
dest[4]='\0';
printf("Strncpy: %s\n",dest);
return 0;
}
```

---

6. `mystrupper`

```
#include<stdio.h>
void mystrupper(char *s){
for(int i=0;s[i];i++)if(s[i]>='a'&&s[i]<='z')s[i]-=32;
}
int main(){
char s[]="gajanan purud";
mystrupper(s);
printf("Upper: %s\n",s);
return 0;
}
```

---

7. mystrlower

```
#include<stdio.h>
void mystrlower(char *s){
for(int i=0;s[i];i++)if(s[i]>='A'&&s[i]<='Z')s[i]+=32;
}
int main(){
char s[]="GAJANAN PURUD";
mystrlower(s);
printf("Lower: %s\n",s);
return 0;
}
```

---

8. mystrrev

```
#include<stdio.h>
int mystrlen(const char *s){
int len=0;
while(s[len]!='\0')len++;
return len;
}
void mystrrev(char *s){
int i=0,j=mystrlen(s)-1;
while(i<j){
char t=s[i];s[i]=s[j];s[j]=t;
i++;j--;
}
}
int main(){
char s[]="gajanan";
mystrrev(s);
printf("Reverse: %s\n",s);
return 0;
}
```

---

9. mystrstr

```
#include<stdio.h>
int mystrlen(const char *s){
int len=0;
while(s[len]!='\0')len++;
return len;
}
char* mystrstr(const char *haystack,const char *needle){
int l=mystrlen(needle);
if(l==0)return (char*)haystack;
for(int i=0;haystack[i];i++){
int j=0;
while(haystack[i+j]&&haystack[i+j]==needle[j])j++;
if(j==l)return (char*)(haystack+i);
}
return NULL;
```

```
}
int main(){
char s[]="gajanan purud";
printf("Found: %s\n",mystrstr(s,"pur"));
return 0;
}
```

---

10. `mystrcasecmp`

```
#include<stdio.h>
int mystrcasecmp(const char *s1,const char *s2){
while(*s1 && *s2){
char c1=(*s1>='A'&&*s1<='Z')?*s1+32:*s1;
char c2=(*s2>='A'&&*s2<='Z')?*s2+32:*s2;
if(c1!=c2)return c1-c2;
s1++;s2++;
}
return *s1-*s2;
}
int main(){
printf("Case Compare: %d\n",mystrcasecmp("GAJANAN","gajanan"));
return 0;
}
```

---

11. `mystrchr`

```
#include<stdio.h>
char* mystrchr(const char *s,char c){
while(*s){
if(*s==c)return (char*)s;
s++;
}
return NULL;
}
int main(){
char s[]="gajanan";
printf("First a: %s\n",mystrchr(s,'a'));
return 0;
}
```

---

12. `mystrrchr`

```
#include<stdio.h>
char* mystrrchr(const char *s,char c){
const char *last=NULL;
while(*s){
if(*s==c)last=s;
s++;
}
return (char*)last;
```

```
}
int main(){
char s[]="gajanan";
printf("Last a: %s\n",mystrrchr(s,'a'));
return 0;
}
```

---

13. `mystrncmp`

```
#include<stdio.h>
int mystrncmp(const char *s1,const char *s2,int n){
for(int i=0;i<n;i++){
if(s1[i]!=s2[i]||s1[i]=='\0'||s2[i]=='\0')return (unsigned char)s1[i]-
(unsigned char)s2[i];
}
return 0;
}
int main(){
printf("strncmp: %d\n",mystrncmp("gaja","gajaX",4));
return 0;
}
```

---

14. `mystrnstr`

```
#include<stdio.h>
int mystrlen(const char *s){
int len=0;
while(s[len]!='\0')len++;
return len;
}
char* mystrnstr(const char *h,const char *n,int lim){
int l=mystrlen(n);
if(l==0)return (char*)h;
for(int i=0;i<=lim-l && h[i];i++){
int j=0;
while(j<l && h[i+j]==n[j])j++;
if(j==l)return (char*)(h+i);
}
return NULL;
}
int main(){
char s[]="gajanan purud";
printf("nstr: %s\n",mystrnstr(s,"pur",13));
return 0;
}
```

---

15. `mystrncat`

```
#include<stdio.h>
void mystrncat(char *dest,const char *src,int n){
```

```
while(*dest)dest++;
for(int i=0;i<n&&src[i]!='\0';i++)*dest++=src[i];
*dest='\0';
}
int main(){
char a[100]="gajanan ",b[]="purud";
mystrncat(a,b,3);
printf("Strncat: %s\n",a);
return 0;
}
```

---

16. `mystrncasecmp`

```
#include<stdio.h>
int mystrncasecmp(const char *s1,const char *s2,int n){
for(int i=0;i<n;i++){
char c1=(s1[i]>='A'&&s1[i]<='Z')?s1[i]+32:s1[i];
char c2=(s2[i]>='A'&&s2[i]<='Z')?s2[i]+32:s2[i];
if(c1!=c2||s1[i]=='\0'||s2[i]=='\0')return c1-c2;
}
return 0;
}
int main(){
printf("ncasecmp: %d\n",mystrncasecmp("HELLO","hello",5));
return 0;
}
```
