

```
scanf("%s,S",s2);
i = strlen(s1);
j = strlen(s2);
for (k=0,k<i,k++)
s3[k] = s1[k];
for (k=0,k<j,k++)
s3[i+k] = s2[k];
s3[i+j] = '\0';
printf(" The new string is \n".s3);
}
```

4.6 File Operations like fopen(), fclose(), fprintf(), fscanf()

The help of these functions the user can open a file with the data file specifications, create and write information in to the file and can close the file. The following are the file processing related functions.

- a. FILE OPEN function fopen()
- b. FILE CLOSE function fclose()
- c. FILE INPUT functions getc() and fscanf()
- d. FILE OUTPUT functions putc() and fprintf()

a. The function fopen()

This function is used to open a data file. Moreover, this function returns a pointer to a file. The use of the function is

```
file pointer = fopen( filename, mode);
```

Where file pointer is a pointer to a type FILE, the file name of the file name is name of the file in which data is stored or retrieved (should be enclosed within double quotes) and the mode denotes the type of operations to be performed on the file (this also to be enclosed within double quotes).

But, before making this assignment, the file pointer and fopen() should be declared as FILE pointer type variables as under :

```
FILE *file pointer, * fopen() ;
```

The mode can be one of the following types.

MODE	MEANING
“r”	- read from the file
“w”	- write to the file
“a”	- append a file ie new data is added to the end of file
“r+”	-, open an existing file for the sake of updation.
“w+”	- create a new file for reading and writing
“a+”	- open a file for append, create a new one if the file does not exist already

Examples

1. `fptr = fopen("rk.Dat","w");`
2. `file= fopen("sample.dat", "r +");`

b. The functions `fclose ()`

The files that are opened should be closed after all the desired operations are performed on it. This can be achieved through this function. The usage of this function is:

`fclose (file pointer);`

Where file pointer is returned value of the `fopen ()` function.

Examples:

1. `fclose (input file);`
2. `fclose (output file);`

c. The functions `getc() & fscanf()`

1. `getc ()` functions: this function is used to read a single character from a given file, whenever a file is referenced by a file pointer. The usage of this function is

`getc (file pointer);`

2. `fscanf ()` function : This function is used to read a formatted data from a specified file. The general usage of this function is

`fscanf(f ptr, "Control String", & list);` where

`fptr` \longrightarrow a file pointer to receive formatted data

Control string \longrightarrow data specifications list

List \longrightarrow the list of variables to be read

```
fscanf(infile, "%d %d," &no, &marks);
```

d. The functions `putc()` & `fprint()`

Example

1. `putc()` function: This function is used to write a single character into a file referenced by the file pointer. The usage of this function is

```
putc(ch, file pointer),
```

Where

ch - the character to be written

file pointer - a file pointer to the file that receives the character.

2. `fprintf()` function: this function is used to write a formatted data into a given file. The specified information is written on the specified file.

The general form of usage for this function is:

```
fprintf(fp, "Control String", list);
```

Where

Fptr \longrightarrow file pointer to write a formatted data

Control string \longrightarrow data specifications list

list- \longrightarrow list of variables to be written.

Example

```
fprintf(out file, "%d %f", basic, gross);
```

Model Questions

Short Answer Type Questions - 2 Marks

01. What is array?
02. What are the different types of arrays?
03. How to declare an array
04. Write a C program to print "IPE" using one dimensional array
05. What is two-dimensional array? Write its application.
06. What are the string handling functions.