Flow chart

stop

Print p ended

I = i+1

Print i

I<n

Read n = 2



Set i = 0

Start

**Use miro or draw.io**

**Sequence Diagram**

* Save separately it as XML and export as png

Revision

**1)strlen =>** int strlen(obj);

Printf(“%d”,strlen(name));

**2)strcmp =>** strcmp(s1,s2)

S1 < s2 ------ negative

S1 == s2 ---- equal

S1 > s2 ------ positive

Ex: if(strcmp(s1,s2) == 0)

If((strcmp(e1.fname, “Chinmayee”) == 0) && (strcmp(e1.lname, “Murthy”) == 0)

If((e1.id == 103) && (e1.lname == “abc”))

3)**strcat =>** strcat(s1,s2) ---- s1 is appended with s2

Ex: When s1 = Chinmayee s2 = Murthy

After appending, result will be s1 = ChinmayeeMurthy s2 = Murthy

**Note: s1 should have more size than s2**

1 #include <stdio.h>

2 #include <string.h>

3

4 int main()

5 {

6 int c1,c2,c3;

7 char res[40] = {'\0'};

8 char temp[10] = {'\0'};

9 char temp1[5];// = {'2'};

10

11

12 c1 = 2;

13 c2 = 1;

14 c3 = 0;

15

16 //2 \* 1 = 2

17 //c1 \* c2 = c3

18

19 while(c2 < 11)

20 {

21 c3 = c1 \* c2;

22 sprintf(temp, "%d x %d = %d",c1,c2,c3);

23 strcpy(res,temp);

24

25 printf("\n%s\n",res);

26 c2++;

27 }

28

29 return 0;

30 }

~

O/P

user50@trainux01:~/practice/try/day12$ ./a.out

2 x 1 = 2

2 x 2 = 4

2 x 3 = 6

2 x 4 = 8

2 x 5 = 10

2 x 6 = 12

2 x 7 = 14

2 x 8 = 16

2 x 9 = 18

2 x 10 = 20

**4)strtok =>** char s1[] = “Amith,Kumar,Ravi”;

Char \* ptr = NULL;

Ex: ptr = s1;

Pf(“%c”,\*ptr); gives A then if ptr++ is done then it gives M and continues in the similar way

By using comma,

For(i = 0;i<strlen();i++)

{

If(\*ptr == ‘,’)

{

Break;

}

Ptr++;

}

Then the index value will be 4 and ptr will be pointing to 2004 (when base address is 2000)

For(i = 0;ptr != NULL;i++;ptr++)

{

If(\*ptr == ‘,’)

{

Break;

}

Ptr++;

} OR

For(;ptr != NULL;ptr++)

{

If(\*ptr == ‘,’)

{

Break;

}

}

1 #include <stdio.h>

2

3 int main()

4 {

5 char Lines[] = "Amit,Kumar,Ravi";

6 char Names[10][20];

7 int row = 0,col = 0;

8

9

10 char \*ptr = NULL;

11

12 ptr = Lines;

13

14 while(\*ptr!='\0')

15 {

16 putchar(\*ptr);

17 ptr++;

18 }

19

20 ptr = Lines;

21 row = 0;

22 col = 0;

23 while(\*ptr != '\0')

24 {

25 if(\*ptr == ',')

26 break;

27 Names[row][col] = \*ptr;

28 ptr++;

29 col++;

30 }

31 Names[row][col] = '\0';

32 putchar(\*ptr);

33 puts(Names[row]);

34 ptr++;

35

36 printf("\n\n");

37 return 0;

38 }

O/P

user50@trainux01:~/practice/try/day12$ ./a.out

Amit,Kumar,Ravi,Amit

* Strtok will have its own internal pointer

#include <stdio.h>

#include <string.h>

int main()

{

char Lines[] = "101|Amit Kumar|M|8888|10000";

char Names[10][20];

int row=0,col=0,i;

char \*ptr=NULL;

int flag = 0;

ptr = strtok(Lines,"|");

do{

strcpy(Names[row],ptr);

// puts(Names[row]);

ptr = strtok(NULL,"|");

row++;

}while(ptr != NULL);

for(i=0;i<row;i++)

printf("\n%s",Names[i]);

printf("\n\n");

return 0;

}

**Structures**

To form one of different types --- group of chairs of similar type will have their unique properties like no of legs, brand, shape etc.

It can be declared as

Struct tagName {

Members/ properties of the structure

};

* To convert string to integer we use atoi.
* To convert char to string we just add null character (\0)

Syntax for functions

Rtd fName(args) {

Return rtd;

}

Unit testing --- refer to the repository of sir

**Dynamic memory allocation --- for space optimization**

1 //Dynamic memory allocation

2

3

4 #include <stdio.h>

5

6 typedef struct Employee

7 {

8 int id;

9 int sal;

10 int phNo;

11 char Name[30];

12 char Gender;

13

14 }EMP;

15

16 int printEmp(EMP \*);

17 int getEmp(EMP \*);

18

19 int main()

20 {

21 EMP e1;

22

23 EMP \*e = NULL;

24

25 e = &e1;

26

27 scanf("%d%d%d%s",&e1.id,&e1.sal,&e1.phNo);

28 scanf("%s",e1.Name);

29 getchar();

30 scanf("%c",&e1.Gender);

31

32 printf("\nId: %d",e -> id);

33 printf("\nName: %s",e -> Name);

34 printf("\nGender: %c",e -> Gender);

35 printf("\nPhno: %d",e -> phNo);

36 printf("\nSalary: %d",e -> sal);

37

38 printf("\n\n");

39 return 0;

40 }

~

O/P

user50@trainux01:~/practice/try/day12$ ./a.out

102 33333 989889

Chinmayee

F

Id: 102

Name: F

Gender:

Phno: 989889

Salary: 33333

* **In normal pointer we donot specify the address i.e we donot use &**
* **In structure pointer we need to use specify the address by using &**

e in program is exactly the base address

**Note**: Type casting is mandatory while using generic pointer. So usually type casting is recommended

Next program to be copied from repository – p5

We get error as---- free(): invalid pointer

Aborted: core dumped

Because base address is not freed when it is moved to next location