Write a C program to search within a file a ?source word? replace it with a corresponding ?replaced word?. the input file, the source word and the replaced words are specified by the user in the command line.

2. Write a C program to search within a file any word which starts with ?a? if the word following this ?a? starts with a vowel. Then replace this ?a? with ?an?. redirect the output onto an output file. The source file and destination file are specified by the user in the command line.

```
1)
#include
int main()
{
char c='1';
int j=atoi(c);
}


2)
int main()
{
const int j=2;
int i;
switch(i)
{
case 1:break;
case j:break;
default:break;
}
}

3)
#define VOLEDEMORT _who_must_not_be_named
int main()
{
printf("VOLEDEMORT");
}

4)
struct node
{
char *name;
int num;
```

```
};

int main()
{
struct node s1={"Harry",1331};
struct node s2=s1;
if(s1==s2)
printf("Same");
else
printf("Diff");
}

5)
int main()
{
char s1[]="Hello";
char s2[]="Hello";
if(s1==s2)
printf("Same");
else
printf("Diff");
}

6)
int main()
{
int j=5;
printf("%d",(*&j)++);
}

7)
int main()
{
int x=0x5678;
int y=0x1234;
x=x|y;
y=y&0x1234;
printf("%x",y);
}

8)
struct struc
{
int a:1;
int b:3;
int c:6;
int d:3;
```

```
}s1;
struct stru
{
char a:3;
}s2;
int main()
{
printf("%d %d",sizeof(s1),sizeof(s2));
getchar();
}
```

9)

```
void fun(int const *ptr)
{
*((int *)ptr)=20;
}
int main()
{
int const j=10;
fun(&j);
printf("%d",j);
getchar();
}
```

10)

```
int main()
{
char s1[]="Hello";
char s2[]="World";
printf("%s",strcpy(s1,s2));
getchar();
}
```

11)

```
int main()
{
static int i=5;
if(--i)
main();
printf("%d",i);

getchar();
}
```

Something similar which actually prints 54321

```
12)
struct node
{
int a;
struct node n1;
};

int main()
{
struct node s1;
printf("%d",s1.a);
}

13)
int main()
{
int mat[5][5];
int i,j,*p;
p=mat;

for(i=0;i<5;i++)
for(j=0;j<5;j++)
mat[i][j]=i+j;

printf("%d",sizeof(mat));

i=4;j=5;
printf(" %d",*(p+i+j));
getchar();

}
```

then we have to write programs

1) write a program to convert a expression in polish notation(postfix) to inline(normal) something like make 723+* (2+3) x 7 (not sure) just check out its mainly printing expression in postfix form to infix.

2)Write a program to print distinct words in an input along with their count in input in decreasing order of their count..

Other Sets

3)There is a mobile keypad with numbers 0-9 and alphabets on it.take input of 7 keys and then form a word from the alphabets present on those keys.

1.find the output.

```
Main()
{
char *n=”SUBEX”;
char *n=”FREDIX”;
printf(“%c”,*(++n));
n--; printf(“%c”,*n);
}
```

(a) FR (b) RF (c) RR (d) segmentation fault (ans)

2.which on is showing constant pointer in following?

(a) const int * p;
(b) int * const p;(ans)
(c) int const *p;
(d) const int const *p;

3.Following is function declaration,so wat will be structure of the calling function?

typeit(char *p,int *i){...}

(a) typeit(ptr,&i);(ans)
(b) typeit(&ptr, &i);
(c) typeit(*ptr, *i);
(d) typeit(ptr[],i);

4.if there is an error in library function then which function is called to show the error?

(a) ferror();
(b) strerror(errornum);
(c) fprintf(“%s”,strerror(errornum));
(d) fprintf(stderr,”%s”,geterror());(ans)

Something like above option just check it.

5.find the output:-

```
main()
{
int a=5;
int y=-10;
int b=4;
int c=-2,k;
k=a + --y*c/b;
printf(“%d”,k);
}
```

(a) 5 (b) 6 (c) 10 (ans) (d) 11 6

```
main()
{
int i=-1, j=-1, k=0, l=2, m;
m=i++&&j++&&k++||l++;
printf("%d %d %d %d %d",i,j,k,l,m);
}
```

Answer:
(a) 0 0 1 3 1(ans)
(b) 1 1 0 3 0
(c) 1 0 1 0 1
(d) none of these

Question7:-

```
#include main()
{ char s[]={'a','b','c','\n','c','\0'};
char *p,*str,*str1;
p=&s[3];
str=p;
str1=s;
printf("%d",++*p + ++*str1-32);
}
```

Answer:
(a)77 (ans)
(b) 78
(c)76
(d) none of these

Question 8:-

```
main()
{
int c[ ]={2.8,3.4,4,6.7,5};
int j,*p=c,*q=c;
for(j=0;j<5;j++)
{
printf(" %d ",*c);
++q;
} for(j=0;j<5;j++)
{
printf(" %d ",*p); ++p;
}
}
```

Answer:
(a) 2 2 2 2 2 2 3 4 6 5 (ans)

(b) 2 2 2 2 2 4 3 6 5
(c) 2 2 2 2 2 2 2 2 2
(d) none of these

9. What is difference between memcpy() and memmove()? option (b) overlapping stuffs

Question 10:-

```
main()
{
char *c=”hello/*””world*/!”;
printf(“%s”,c);
}
```

(a) hello
(b) hello world
(c) hello/*world*/ (ans)
(d) hello/*””world*/!”

Question 11:-

```
#define FIRST 7
#define LAST 5
#define SQUARE FIRST+LAST

main()
{
printf(“%d”,SQUARE*SQUARE);
}
```

(a) 144 (b) 47 (ans) (c) 35 (d) none of theese

12.find the output:-

```
main()
{
int a=5,n;
(n=-(~a)+ ++a);
printf(“%d”,n);
}
```

(a) 10 (b) 11 (c) 12(ans) (d) 13

Question 13:-

```
 main()
{
int *ptr[]={1,2,3,4,5};
*ptr+2=10;
for(i=0;i<5;i++)
```

```
printf(“%d”,ptr[i]);
}
```

(a) 1 2 3 4 5
(b) 1 2 10 4 5
(c)1 10 3 4 5
(d) error (ans)

Question 14:-

```
main()
{
char *str='a';
printf(“%c”,str);
printf(“%c”,(int *)str++);
}
```

(a) 97 97 (ans)
(b) 97 98
(c) 97
(d) error

Question 15:-

how do we get additonal 90 byte for the previously allocated memory for integer.
(a) ptr=realloc(ptr,90*sizeof(int)); (ans)
(b) ptr = realloc(ptr,100*sizeof(int));
(c) ptr = alloc (90*sizeof(nt));
(d) non of these

Question 16:-

```
main()
{ int i=10;
printf(“%d”,i<<4);
}
```

(a) 10 (b) 20 (c)40 (ans) (d) 11

Question 17:-

```
main()
{
int arr[4][2],b=0;
for(i=0;i<4;i++)
for(j=0;j<2;j++) arr[i][j]=b++;
printf(“%d”,*(*(arr+1)+1));
}
```

(a) 2 (b) 3 (ans) (c) 5 (d) none of these

Question 18:-

```
main()
{
char *x=”happy”;
char *y,*p;
p=x;
*y=”birthday”;
p=y;
x=”hello jello”;
*y='d';
printf(“%s”,p);
}
```

(a) dirthday (ans)
(b) happy
(c) hello jello
(d) birthday

Question 19:-

How many time it will print??

```
void main()
{
printf(“subex”);
main();
}
```

(a)1 (ans)
(b) 2
(c) infinite
(d) none of these

Question 20:-

```
#define PRINTSUM(x,y,a) printf(#x “=%d” #z”=%d”,x,y);
main()
{
int a=2,b=3,c=4;
PRINTSUM (a,b,c);
a++, b++;
// some logival expr to increment the value c++; PRINTSUM(a,b,c);
}
```

(a) x=0 z=1 (ans)
(b) compilation error
(c) x=0 z=1 x=1 z=3
(d) segementation fault x=0 z=2 thats all they asked

For written round the simple programs asked were
1)Input the text from a file and count the number of words which start with a vowel...you have to use command line arguments.the input file name is given at the command prompt..
2)to input an unsigned integer and reverse the first and last nibble of the number.....there were other questions like input the text from a file and count the number of declarations made as "int","float","char"... i'll just show u an e.g., use lot of comments to support your program and can be understood easily void main(int argc,char* argv[])

```
{
FILE *fp;
char str[],str1[];
int i,count=0;
fp=fopen(argv[1],"r")
//u can either read the entire line using fgets or word by word using fscanf...if u use fgets...store each word in the str until u find a space
while(fgets(str1,80,fp)!=EOF)
{
while(str1[i]!=' ')
{ i=0;
while(str1[i]!=' ')
{
str[i]=str1[i]
i++;
}
//check if the 1st letter is an vowel
switch(str[0])
{
case 'A':
case  'E':
case 'I':
case 'O':
case 'U':
case 'a':
case  'e':
case 'i':
case 'o':
case 'u':count=count+1;
break;
}
}
}
printf ("%d",count);
}
```

Some Technical Questions

```
void main()
{
enum bool{true,false};
if(true==(2==3)
printf(â€œ..
else
printf(â€œ..
}
```

```
void main()
{
printf(â€œ%dâ€□,(float)3/2);
}

void main()
{
int (*func)(const *char)=strlen;
printf(â€œ%dâ€□, func(â€œHelloâ€□);
}

void main() {
char *s=â€□Hello Worldâ€□;
printf(â€œ%câ€□,s);
}

File fp,fs;
fp=fopen(â€œetc.datâ€□,â€□wâ€□);
fs=fopen(â€œetc.datâ€□,â€□wâ€□);
putch(â€˜Aâ€™,fp);
putch(â€˜Bâ€™,fs); What will happen?
```

What is the equivalent of a Ans: *(a+i)

int (*func)(int,int) is a pointer to a function with 2 integers as parameters and returning an integer value.

int *(*func)(int *,int *) is a pointer to a function with 2 integer pointers as parameters and returning a pointer to

an integer Which of a and b is true?
Ans: Both are true.

switch(float value) this is compiler error.

```
int a[5]={1,2,3,4,5};
int *p=a+1;
int *q=a+5;

int dif=q-p;
```

value of dif is 4 (q-p is evalueated as q-p/sizeof int)

```
Switch(NULL)
```

ans: case 0: will be executed.

```
#define exp 5
```

printf("%d",exp++);
ans: compilation error lvalue required

strcat(str,str);
ans: compilation error

Pointers can be subtracted from each other, can be added, constant cab be added or subtrated from pointer, but multipilcation with constant to pointer is not possible.

int(*ptr)[10] pointer to array of 10 integers.

Paper Code-COT2

Q1.
```
#include
main()
{
float a =3.56;
printf("%d",int(a));
}
```
Answer -3

Q2.
```
#define SQUARE(X) X*X;
#include
main()
{
int x=4;
int y=SQUARE(X)/x*x;
printf("%d",y);
}
```
Answer -64

Q3.
```
#define TRUE 1
#define FALSE -1
#define NULL 0;
main()
{
if(NULL)
printf("NULL");
else if(FALSE)
printf("TRUE");
else if(TRUE)
printf("FALSE");
}
```
Answer TRUE

Q4:

```
#include
void main()
{
show();
}
void show()
{
printf("HEllo");
}
```
Ans- Error :(Prototype not defined)

Q5:
```
#include
void main()
{
char *ch="hello";
printf("%s",strcat(ch , !));
}
```
Answer- Error.....because ! should be " ! "(! should be string)

Q6:
The command line arguments are myprogram 1 2 3
```
#include
void main(argc, char *argv[])
{
int i;
int sum=0;
for(i=0;i<3;i++)
sum=sum+atoi(argv[i]);
printf("%d:",sum);
}
```
Answer Undefined but no error

Q7.
```
void main()
{
int a=0,b=9,c=2,d=8;
if(a,b,c,d)
printf("hello");
else
printf("hi");
if(b,c,d,a)
printf("bye");
else
printf("blr");
}
```
Answer - hello blr

Q8.
```
void main()
{
struct {
char * ch;
```

```
int utype;
int num
union {
float * flew;
int num2;
}
} tab[10];
printf("%d",sizeof(tab));
}
```
Answer 160;(Assuming integer take 4 byte i.e 32 bit computer)

Q9.
```
void main()
{
int *p;
int a[5]={5,2,6,8,9};//not excatly the same array but concept is same
int **ptr;
p=a;
ptr=&p;
printf("%d",(**ptr)++)
}
```
Ans 5;

Q10:
```
void main()
{
char str1[]="abcd";
char temp[];
char str2[]="efgh";
int x=strcmp((strcat(strcpy(temp,str1),str2),str2);
printf("%d",x);
}
```
Ans 0

Q11.
```
void main()
{
int n=11;
char s[]="hello world";
func(s,11);
}
func(char s[],int n)
{
if(n==0)
return;
else
func(s,n--);
printf("%c",s[i]);
}
```
Answer hello world

Q12:
```
void main()
```

```
{
int a=1;b=2;
printf("%d",a)-1;
scanf("%d",&b)-1;
}
```
Answer 1

Q13:
```
void main()
{
int max[5][5];
int *p;
int i ,j ;
p=max;
for(i=0;i<5;i++)
for(j=0;j<5;j++)
max[i][j]=i+j;
p=p+i+j// i do not knw excatly bt it was coming like p=p+9;
printf("%d%d",*p,sizeof(max));
}
```
Answer 100,5

Q14;
```
void main(argc,char*argv[])
{
(main()&&argc?return 0:main(argc--);
}
```
Answer NO idea....question was something in which main call itself according to come condtion
```
void main(int agrc,char *argv[])
{
if(main()&&argc)   /* something like that bt i am not sure that whether there were some arguments
return ;                  /* the main() of IF
else
argc--;
}
```

Technical Skills Test

1. What will be the output of the following program?

Note: Space is represented by 0.

int main(int argc,char *argv[])

{char *s="Hello,world";printf("%10s",s);}

a) Hello,world0000000000 b) Hello,worl c) 0000000000Hello,world d) Hello,world

ans: d

2. In the below program the getNewString function is defined and it returns a character pointer. This function is called from main function as defined below. What will be the output of this program?

```
char *getNewString( )

{static char xxx[1024];return xxx;}

main( )

{char g[]="First";char *p;strcpy(getNewString( ),g);

p=getNewString( );

strcpy(p,"Second");

printf("The string is : %s",getNewString( ));}
```

a) The string is : First b) The string is : FirstSecond c) The string is

ans: c

: Second

d) Unknown, since the scope of the pointer is local

3. What will be output of the following recursive program?

```
void printme(int *p)

{int q=*p;if(*p>0)

{q=*(p);printme(p);}printf("%d",q);}void main(void)

{int x[5]={0,16,12,8,1};

printme(&x[4]);}
```

a) 0,0,1,2,3, b)4,8,12,16,0, c) Error cannot pass elemenpointer

b) 0,16,12,8,4

4. What is the output of the following line in 32-bit OS?

```
printf("%d%d\n",sizeof('a'),sizeof("a"));
```

a) 4,2 b) 1,1 c) 1,2 d)2,2

5. What is the output of following program?

```
#include
#include
main( )
{char str[]="Welcome to Subex Systems";
char *ptr;
ptr=strtok(str," ");
while(ptr) ptr=strtok(NULL," ");
printf("%s\n",str);}
```

a) Welcome to Subex Systems b) Error, since NULL is passed to strtok

c)NULL d) Welcome

6. Study the program below and predict the output

```
#include
int compute(int (*)(int),int);
int cube(int);
main( )
{printf("%d\n",compute(cube,4));}
/* no syntax errors please…have fun!!*/
int compute(int(*f),int in)
{int res=0,i;for(i=1;i<=in;i++);res+=(*f)(i);return(res);}
int cube(int n)
{return (n*n*n);}
```

a) 150 b) 64 c) 125 d)225

7. The output of the following program is

#include

main( )

{int i=-1;while(i<5)

{#ifdef X printf("%d",i++);#endif}

a) Compiler error b) -1,0,1,2,3,4, c) Infinite loop d) 1,2,3,4,

8. The output of the following program is

#include

void f(char* p);

main( )

{char *p=(char*)l;f(p);printf("%s\n",p);}

void f(char *p)

{char sz[]="hello";p=sz;

a) Runtime error b) NULL c)hello d) Compiler error

9. The output of the following program is

#includestdio.h>

void f(char **p)

{char *sz="hello";*p=sz;}

main( )

{char *p="NULL";f(&p);printf("%s\n",p);}

a) Compiler error b) Runtime error c) hello d) 1

10. The output of the following program is

#include

main( )

{int n;if(n<=-1)

{int x=1else

{

int x=1;

}a) Compiler error b) Unpredictable output c) 10 d) 1

11. The correct declaration of a pointer "func" to function returning a "char" and taking no parameters is

a) char func( )* func;

b) char (*func)( );

c) char* ( ) func;

d) None of the above

12. The output of the following program is

#include

#define arbit 5

main( )

{printf("%d\n",arbit}

a) 5 b) 6 c) Compiler error d) Runtime error

13. Determine which of the following are valid identifiers

i. Return

ii.123 45 6789

iii. Record_1

iv. $Tax

a) iii & iv b) i & iii c) i,ii & iv d) i & iv

14. The output of the following program is

```
#include
struct x {int a; char *b;} *p;
main( )
p=(struct x*) 100;
printf('%d,%d,%d\n",p,p+1,&p[2]);
```

a) 100,108,116 b) Compilation error c) 100,104,108 d) 100,103,106

15. What is the output of the following?

```
main( )
int a[5]={5,1,15,20,25};
int i=1;
printf("\n%d%d",a++,a[++i]);
```

a) 2,16 b) 1,15 c) 1,20 d) 2,1

16. What is the output of the following

```
main( )

int a[5]={5,1,15,20,25};
int i=1;
printf("\n%d%d",a,a[i++i]);
```

a) 2,16 b) 1,15 c) 1,20 d) 2,16

16. static float table [2][3]={{1,1,1,2,1,3},{2,1,2,2,2,3}};

*What is the value of *(*(table)+1)+1?*

a) 2,2 b)1,2 c) 2,1 d) 2,3

17. What is the output of the following program?

```
#include
```

main( )

int i,j,x=0;

for(i=0;i<5;++i)

for(j=0;j

x+=(i+j-1);

printf("%d",x);

break;

a) 1 b) 0 c) 2 d) None of the above

18. Consider the following

i. Pointer to a function that accepts 3 integer arguments and returns a floating-point quantity

float(8pf)(int a, int b,int c)

ii. Pointer to a function that accepts 3 pointers to integer quantities as arguments an returns a pointer to a floating-point quantity

*float *(*pf)(int *a,int *b,int *c);*

a) i is true, ii is true b) i is true,ii is false

c) i is false, ii is false d) i is false, ii is true

19. Consider the following statements

i. An integer quantity can be added to or subtracted from a pointer variables.

ii. Two pointer variables can be added.

iii. A pointer variable can be multiplied by a constant

iv. Two pointer variables of same type can be subtracted.

a) Only ii & iv are true b) Only iii is false c) Only ii is false d) Only i & ii are true

20. If p is a pointer ,what does p mean?

*a) Same as *(*p+i)*

*b) Same as *(p+i)*

*c) Same as *p+i*

d) None of the above

1)
```
#include
int main()
{
   char c='1';
   int j=atoi(c);
}
```

2)
```
int main()
{
   const int j=2;
   int i;
   switch(i)
   {
   case 1:break;
   case j:break;
   default:break;
   }
}
```

3)
```
#define VOLEDEMORT _who_must_not_be_named
int main()
{
   printf("VOLEDEMORT");
}
```

4)
```
struct node
{
       char *name;
       int num;
};
int main()
{
   struct node s1={"Harry",1331};
   struct node s2=s1;
   if(s1==s2)
       printf("Same");
   else
```

```
        printf("Diff");
}

5)
int main()
{
    char s1[]="Hello";
    char s2[]="Hello";
    if(s1==s2)
        printf("Same");
    else
        printf("Diff");
}

6)
int main()
{
    int j=5;
    printf("%d",(*&j)++);
}

7)
int main()
{
    int x=0x5678;
    int y=0x1234;
    x=x|y;
    y=y&0x1234;
    printf("%x",y);
}

8)
 struct struc
{
    int a:1;
    int b:3;
    int c:6;
    int d:3;
}s1;
struct stru
{
    char a:3;
}s2;
int main()
{
    printf("%d %d",sizeof(s1),sizeof(s2));
```

```
    getchar();
}
```

9)

```
void fun(int const *ptr)
{
    *((int *)ptr)=20;
}
int main()
{
    int const j=10;
    fun(&j);
    printf("%d",j);
    getchar();
}
```

10)

```
int main()
{
    char s1[]="Hello";
    char s2[]="World";
    printf("%s",strcpy(s1,s2));
    getchar();
}
```

11)

```
int main()
{
    static int i=5;
    if(--i)
        main();
    printf("%d",i);

    getchar();
}
```

Something similar which actually prints 54321

12)

```
struct node
{
    int a;
    struct node n1;
};
int main()
{
    struct node s1;
```

```
    printf("%d",s1.a);
}
```

13)

```
int main()
{
    int mat[5][5];
    int i,j,*p;
    p=mat;

    for(i=0;i<5;i++)
        for(j=0;j<5;j++)
            mat[i][j]=i+j;
    printf("%d",sizeof(mat));
    i=4;j=5;
    printf(" %d",*(p+i+j));
    getchar();
}
```

Then we have to write programs
1) write a program to convert a expression in polish
notation (postfix) to inline (normal)
something like make 723+* (2+3) x 7 (not sure) just
check out its mainly printing expression in postfix form to infix.
2)Write a program to print distinct words in an input
along with their count in input in decreasing order of their count..
other sets

3)There is a mobile keypad with numbers 0-9 and alphabets on it. take input of 7 keys and then form a
word from the alphabets present on those keys.
Best of luck to all.. just stay focused and you are
bound to clear. :-)

File Handling programs

This section contains programs demonstrating file handling and command line arguments.

The following program reads a text file and counts how many times each letter from 'A' to 'Z' occurs and displays the results.

```
#include
#include
#include

int count[26];

void main(int argc, char *argv[])
{
FILE *fp;
char ch;
int i;
/* see if file name is specified */
if (argc!=2) {
printf("File name missing");
exit(1);
}

if ((fp= fopen(agv[1], "r")) == NULL) {
printf("cannot open file");
exit(1);
}

while ((ch=fgetchar(fp)) !=EOF) {
ch = toupper(ch);
if (ch>='A' && ch<='Z') count[ch-'A']++;
}

for (i=0; i<26; i++)
printf("%c occurred %d times\n", i+'A', count[i]);

fclose(fp);
}
```

This program uses command line arguments to read and display the contents of a file supplied as an argument.

```
#include

#define CLEARS 12 /* constant */
```

```
main(int argc , char *argv[])
{
FILE *fp , *fopen();
int c;

putchar(CLEARS);

while ( --argc > 0 )
if ((fp=fopen(argv[1], "r"))==NULL)
{
printf("I can't open %s\n", argv[1]);
break;
}
else
{
while ((c= getc(fp)) !=EOF)
putc(c,stdout); /* display to the screen */
fclose(fp);
}
}
```

This program gives a further example of the use of argc & argv

```
#include
#include

main(int argc , char *argv[])
{
double a , b;

if (argc != 3) {
printf("Usage: add number number ...\n");
exit(1);
}

a = atof(argv[1]);
b = atof(argv[2]);

printf("%lf\n" , a + b);
}
```