GROUP/MOD-5

ROLL: S201805065

ROLL: S201805077

ROLL: S201805089

ROLL: S201805101

ROLL: S201805113

need to provide more reasoning 17/20

Observation for “a+” mode

1) At the time of opening a file in “a+” mode the file pointer indicator initially indicates the very first position. But immediately after writing something the file pointer indicator goes at the end of the file.

SAMPLE CODE:

```
#include <stdio.h>


int main()
{
  FILE *fp;
  fp=fopen("test.txt","a+");
  int y=ftell(fp);
  printf("%d\n",y);      //here the file pointer is indicating the 1st position
fprintf(fp,"%d",15);
```

```
  int x=ftell(fp);
printf("%d",x);        //here the file pointer is indicating the last position after writing
  fclose(fp);
  return 0;
}
```

Output:

```
 0
 29
```

2) After reading something from the file writing doesn't work.

SAMPLE CODE:

```
#include<stdio.h>
int main(){
   char a[10],b[10]="abc";
   FILE *fp=fopen("test.txt","a+");
   fscanf(fp,"%s",a);
   printf("%s",a);
   fprintf(fp,"%s",b);
   fclose(fp);
   return 0;
}
```

Output:

”This” on console. But the string “abc” isn’t written in the file.

3) Writing something first and then reading doesn’t work. Nothing is written in the file and the program crashes.

SAMPLE CODE:

```
#include<stdio.h>
int main(){
   char a[10],b[10]="abc";
   FILE *fp=fopen("test.txt","a+");
   fprintf(fp,"%s",b);
   fscanf(fp,"%s",a);
   printf("%s",a);
   fclose(fp);
   return 0;
}
```

Output:

Process finished with exit code -1073741816 (0xC0000008)

And nothing is written in the file.

4) fgetc, fscanf, fputc, fprintf all work fine in this mode.

5) If we write something in the file, move the pointer using fseek and then read something, the program runs correctly.

SAMPLE CODE:

```
#include<stdio.h>
int main(){
   char a[10],b[10]="abc";
   FILE *fp=fopen("test","a+");
   fprintf(fp,"%s",b);
   fseek(fp,0,SEEK_SET);
   fscanf(fp,"%s",a);
   printf("%s",a);
   fclose(fp);
   return 0;
}
```

Output:

"This" is printed in the console and "abc" is written at the end of the file.

Interestingly, if we move the pointer to the end of the file or move it to its current position @ is printed on the console. This indicates that the writing procedure moves the pointer to the end of the file.

6) Even fread and fwrite also work in this mode. But it always writes corresponding ASCII character if we use fwrite in this mode.

SAMPLE CODE:

```
#include <stdio.h>


int main()
{
   FILE *fp;
   fp=fopen("test.txt","a+");   //here the file contains the statement (This is a file)
char a;

while(!feof(fp))
{
  fread(&a,sizeof(a),1,fp);
  printf("%c",a);
}
int b=100;

fwrite(&b,sizeof(b),1,fp);
```

```
  fclose(fp);
  return 0;
}
```

Output:

"This is test file" was shown in console.

In the file '**d**' (ASCII character of 100) was added at the end of the ..

7) In this mode a binary file also can be read.

SAMPLE CODE:

```
#include <stdio.h>

int main()
{
  FILE *fp;
  fp=fopen("testb.txt","wb");  //Creating a binary file
char a[100]="This a test file";
char c;

fwrite(a,sizeof(a),1,fp);
```

```
fclose(fp);


fp=fopen("testb.txt","a++");
```

```
while(!feof(fp))
{
   fread(&c,sizeof(c),1,fp);  //reading from that binary file in a+ mode
   printf("%c",c);
}


  fclose(fp);
  return 0;
}
```

Output:

In console (“This is a test file”).