(a) Whether or not the '\n' character is translated into a line feed sequence.

Answer: Yes the '\n' character is translated into a line feed sequence.

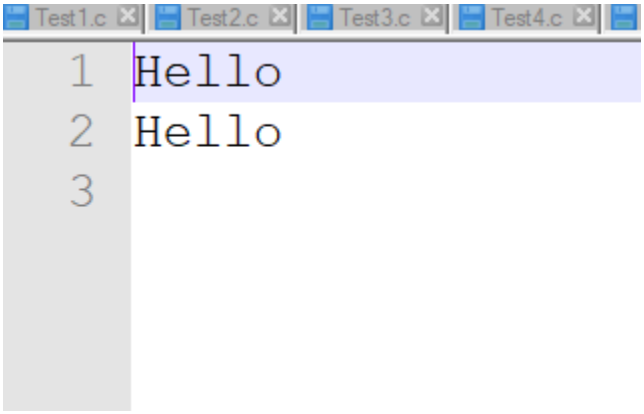
```c
#include <stdio.h>

#include <stdlib.h>



int main(void){

  FILE *fp;

  if ( (fp = fopen("demo.txt", "w")) == NULL){
       printf("Cannont open file.\n");


  }else
       fprintf(fp, "%s", "Hello\n");
       fclose(fp);

  return 0;

}
```

```
Hello

```

(b) Determine whether the SPI is positioned at the start or end of the file when an existing file is opened in append mode. You can use ftell()/fseek() for that;

Answer: SPI is positioned at the end of the file when an existing file is opened in append mode.

```c
#include <stdio.h>

#include <stdlib.h>



int main(void){

  FILE *fp;

  if ( (fp = fopen("demo.txt", "a")) == NULL){
       printf("Cannont open file.\n");


  }else
       fprintf(fp, "%s", "Hello\n");
       fclose(fp);

  return 0;

}
```



(c) In append mode, try to use fseek() to move SPI at the beginning. Then write “Goodbye CSCD240\n” in the file. Does it write at the beginning or at the end?

Answer: It writes at the end because with append mode it always appends at the end.

```c
#include <stdio.h>

#include <stdlib.h>



int main(void){

  FILE *fp;

  if ( (fp = fopen("demo.txt", "a")) == NULL){
       printf("Cannont open file.\n");


  }else
       fseek( fp, 0, SEEK_SET );
       fprintf(fp, "%s", "Goodbye CSCD240\n");
       fclose(fp);

  return 0;

}
```

```
1 Hello
2 Hello
3 Goodbye CSCD240
4
```

(d) Whether the operating system permits empty files of zero length to remain in existence after they have been closed.

Answer: yes, it does.