AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
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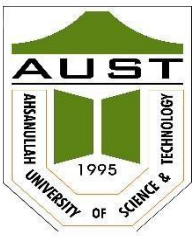

Department of Computer Science and Engineering
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I. Question

A C source program with single and multiple line comments is given. As the first step toward compilation you need to remove the comments and white space (extra spaces, tabs and newline characters). Develop a program that takes as input file the given source program and produces a filtered file as stated above. The program must also display both the files.

II. Input File

input1_160104061.c

```
#include<stdio.h>

 int     main(void)
 {

// Single    Line Comment

    printf   ("Hello");
/*  Multi
    Line
    Comment
*/
    printf         ("World");
    return      0;
 }
```

III. Source Code

Assmnt1_160104061.c

```
        #include <stdio.h>

        void check_comment_space (char) ;
        void block_comment () ;
        void single_comment () ;

        FILE *p1,*p2;
```

Main Function:

```
int main(void)
{
    char c;

    p1 = fopen("input1_160104061.c", "r");
    p2 = fopen("output1_160104061.txt","w");

    if(!p1)
        printf("\nFile can't be opened!");

    else
        {
            while((c = fgetc(p1)) != EOF)
            {
                if(c=='\n')continue;
                check_comment_space(c);
            }
        }

    fclose(p1);
    fclose(p2);

    p2 = fopen("output1_160104061.txt","r");
    while((c=fgetc(p2))!=EOF)
        printf("%c",c);

    fclose(p2);

    return 0;

}
```

Finding comment space

```
void check_comment_space(char c)
{
        char d;
        if( c == '/')
        {
                if((d=fgetc(p1))=='*')
                    block_comment();
                    else if( d == '/')
                    {
                       single_comment();
                    }
                       else
                       {
                          fputc(c,p2);
                          fputc(d,p2);
                       }
        }
        else if (c==' ')
        {
                  fputc(c, p2);
                   while((c = fgetc(p1))==' '){}
                   fputc(c, p2);
        }

        else fputc(c,p2);

}
```

```
void block_comment()
{
        char d,e;
        while((d=fgetc(p1))!=EOF)
        {
                 if(d=='*')
                 {
                          e=fgetc(p1);
                          if(e=='/') return;
                 }
        }
   }



void single_comment()
{
        char d;
        while((d=fgetc(p1))!=EOF)
        {
                if(d=='\n') return;
        }

}
```

IV. Output

Output1_160104061.c

```
#include<stdio.h> int main(void) { printf ("Hello"); printf ("World"); return 0; }
```