

# *Spotting up Labels*

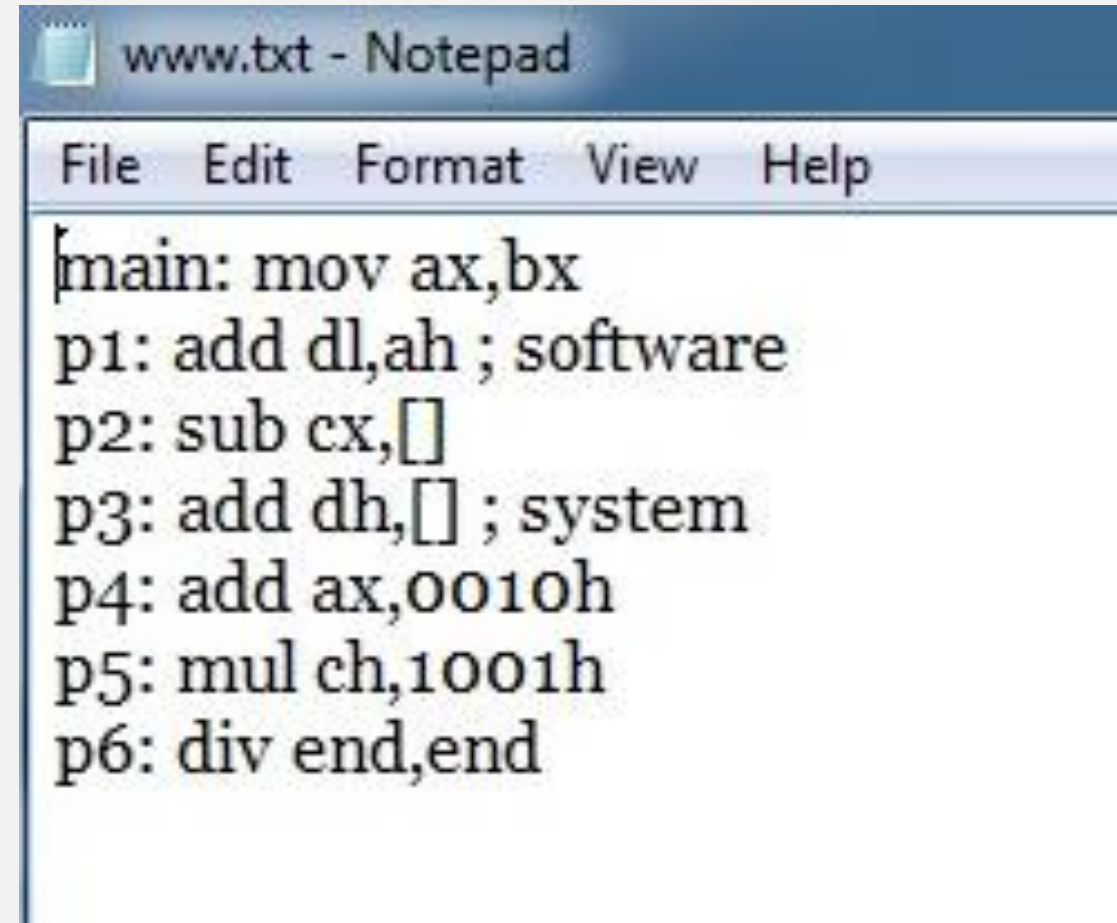
PASS I ASSEMBLER

Course2 Week-1

# PASS1 ASSEMBLER

Following are the Requirements for programming the pass I assembler:

- Spotting up Labels.
- Recognizing the comments lines.
- Calculating the addresses.
- Splitting up R16 & R8 registers before or after the comma.



```
[main: mov ax,bx  
p1: add dl,ah ; software  
p2: sub cx,[]  
p3: add dh,[] ; system  
p4: add ax,0010h  
p5: mul ch,1001h  
p6: div end,end
```

(Global Scope)

```


#include<iostream>
#include<string>
using namespace std;
void main(){
    char lable[100][100],s[100];
    int i=0,j=0;
    FILE *fp;
    fp=fopen("abc.txt","r+");
    if(fp==NULL)
    {
        cout<<"Error in file";
        exit(0);
    }
    while(!feof(fp))
    {
        fscanf(fp,"%s",s);
        if(s[strlen(s)-1]==':')
        {
            for(j=0;j<strlen(s);j++)
            lable[i][j]=s[j];
            lable[i][j]='\0';
            i++;
        }
    }

    for (int k=0;k<i;k++)
        puts(lable[k]);
    fclose(fp);
    system("pause");
}

```

# SPOTTING UP LABELS.

The following file has some instruction. Convert any labels ends with : to string as shown below

 \*abc - Notepad

File Edit Format View Help

```

ADD AX,CX
LL:
BB:MOV AX;1'com
CC:
JC Count:

```

```

LL:
CC:
Count:
Press any key to continue . . .

```

Note that the **strlen()** function doesn't count the null character **\0** while calculating the length.

(Global Scope)

```

#include<iostream>
using namespace std;
void main()
{
    FILE *fp;

    int k=0,j,i;
    char s[100],lable[100][100];
    fp=fopen("abc.txt","r+");
    if(fp==NULL)
    {
        cout<<"Error in file ";
        exit(0);
    }
    while(!feof(fp))
    {
        fgets(s,100,fp);
        for(i=0;s[i]!='\0';i++)
        if(s[i]==':')
        {
            for( j=0;j<=i;j++)
                lable[k][j]=s[j];
            lable[k][j]='\0';
            cout<<lable[k];
            cout<<endl;
            k++;
        }
        fclose(fp);
        system("pause");
    }
}

```

Try to get the below result



\*abc - Notepad

File Edit Format View Help

ADD AX,CX

LL:

BB:MOV AX;1'com

CC:

JC Count:

```

Lk:
BB:
CC:
JC Count:
Press any key to continue . . .

```

THE END