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## OS Lab Assignment 7

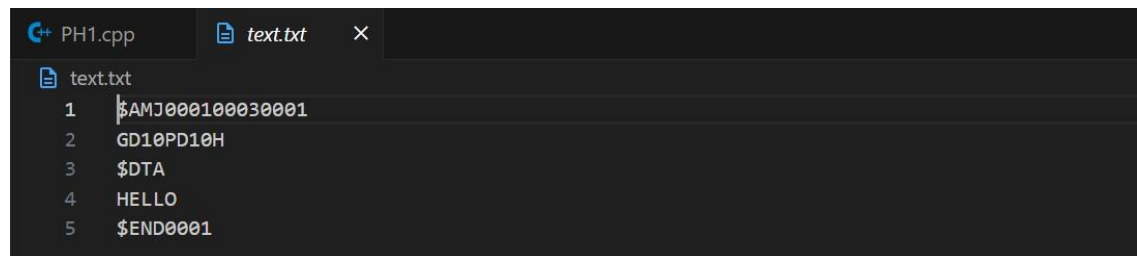
**Q. Write a program to Load job in external memory. Assume size of external memory is 100 by 4 and starting address of program is 00.**

```
PH1.cpp > main()
1  #include <stdio.h>
2  #include <string.h>
3  #include <stdlib.h>
4
5  char R[4], IR[4];
6  int C, IC;
7  char M[100][4];
8  FILE *inputFile, *outputFile;
9
10 void init(char *buffer) {
11     memset(R, '*', sizeof(R));
12     memset(IR, '*', sizeof(IR));
13     C = (int) '*';
14     IC = -1;
15     memset(buffer, '*', 40);
16     for (int i = 0; i < 100; i++) {
17         memset(M[i], '*', sizeof(M[i]));
18     }
19 }
20
21 void writeDataToFile() {
22     outputFile = fopen("output.txt", "w");
23     if (!outputFile) {
24         printf("Error opening output file.\n");
25         return;
26     }
27     for (int i = 10; i < 100; i++) {
28         if (strcmp(M[i], "*****") != 0) {
29             fprintf(outputFile, "%.4s", M[i]);
30         }
31     }
32     fprintf(outputFile, "\n");
33     fclose(outputFile);
34 }
35
36 int main() {
37     inputFile = fopen("text.txt", "r");
38     if (!inputFile) {
39         printf("File not found\n");
40         return 1;
41     }
42
43     char buffer[40];
44     int row = 0;
45     int dataStart = 10;
46
47     while (fgets(buffer, sizeof(buffer), inputFile)) {
48         if (strcmp(buffer, "$AMJ", 4) == 0) {
49             init(buffer);
50         } else if (strcmp(buffer, "$DTA", 4) == 0) {
51             if (fgets(buffer, sizeof(buffer), inputFile)) {
52                 int len = strlen(buffer);
53                 if (buffer[len - 1] == '\n') buffer[len - 1] = '\0';
54                 for (int i = 0, j = 0; i < len; i += 4, j++) {
55                     strncpy(M[dataStart + j], &buffer[i], 4);
56                 }
57             }
58         } else if (strcmp(buffer, "$END", 4) == 0) {
59             writeDataToFile();
60         } else {
61             for (int i = 0; i < strlen(buffer); i += 4, row++) {
62                 strncpy(M[row], &buffer[i], 4);
63             }
64         }
65     }
66 }
```

```

62     }
63 }
64 }
65
66 fclose(inputFile);
67
68 printf("*****\n");
69 for (int i = 0; i < 100; i++) {
70     if (strncmp(M[i], "****", 4) != 0) {
71         printf("M[%d]: %.4s\n", i, M[i]);
72     }
73 }
74
75 writeDataToFile();
76 return 0;
77 }

```

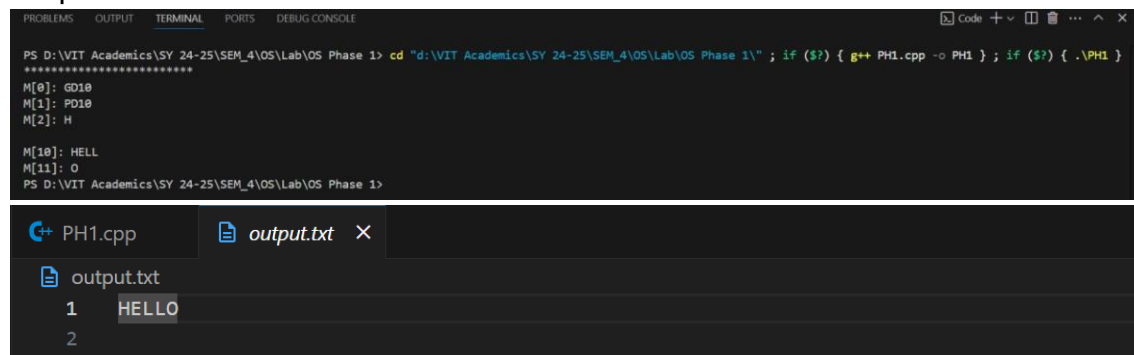


```

PH1.cpp  text.txt
text.txt
1 $AMJ000100030001
2 GD10PD10H
3 $DTA
4 HELLO
5 $END0001

```

Output:



```

PROBLEMS  OUTPUT  TERMINAL  PORTS  DEBUG CONSOLE
PS D:\VIT Academics\SY 24-25\SEM_4\OS\Lab\OS Phase 1> cd "d:\VIT Academics\SY 24-25\SEM_4\OS\Lab\OS Phase 1" ; if ($?) { g++ PH1.cpp -o PH1 } ; if ($?) { .\PH1 }
*****
M[0]: GD10
M[1]: PD10
M[2]: H
M[10]: HELLO
M[11]: O
PS D:\VIT Academics\SY 24-25\SEM_4\OS\Lab\OS Phase 1>

```

```

PH1.cpp  output.txt
output.txt
1 HELLO
2

```