Practical 5

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Code :

```c
#include <stdio.h>

#include <string.h>

int max(int a, int b) {

    return (a > b) ? a : b;

}

int main() {

    char str[] = "AABEBCDD";

    int n = strlen(str);

    int dp[n+1][n+1];

    for (int i = 0; i <= n; i++) {

        for (int j = 0; j <= n; j++) {

            if (i == 0 || j == 0)

                dp[i][j] = 0;

        }

    }

    for (int i = 1; i <= n; i++) {

        for (int j = 1; j <= n; j++) {

            if (str[i-1] == str[j-1] && i != j)
```

```c
            dp[i][j] = 1 + dp[i-1][j-1];
        else
            dp[i][j] = max(dp[i-1][j], dp[i][j-1]);
    }
}


printf("Length of Longest Repeating Subsequence: %d\n", dp[n][n]);


int index = dp[n][n];
char lrs[index + 1];
lrs[index] = '\0';


int i = n, j = n;
while (i > 0 && j > 0) {
    if (str[i-1] == str[j-1] && i != j) {
        lrs[index-1] = str[i-1];
        i--;
        j--;
        index--;
    }
    else if (dp[i-1][j] > dp[i][j-1])
        i--;
    else
        j--;
}


printf("Longest Repeating Subsequence: %s\n", lrs);
return 0;
```

Output :

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\College material> cd "d:\College material\" ; if (
Length of Longest Repeating Subsequence: 3
Longest Repeating Subsequence: ABD
PS D:\College material>
```