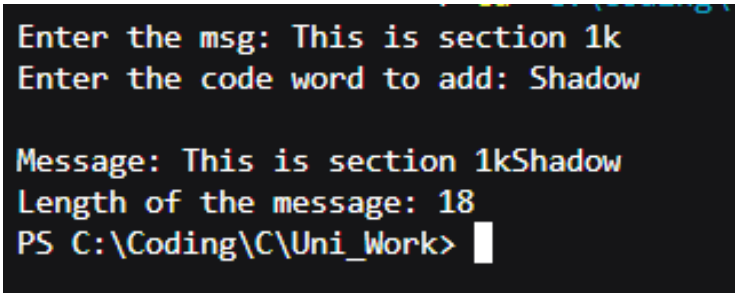
PF LAB 09

ROLL NUMBER: 25K-0892 **SECTION: BCS-1K**

Q1

```
#include <stdio.h>
#include <string.h>

int main() {
    char msg[100];
    char code[50];

    printf("Enter the msg: ");
    fgets(msg, sizeof(msg), stdin);
    msg[strcspn(msg, "\n")] = '\0';

    printf("Enter the code word to add: ");
    scanf("%s", code);

    strcat(msg, code);

    printf("\nMessage: %s\n", msg);

    int len = strlen(msg) - strlen(code);

    printf("Length of the message: %d\n", len);

    return 0;
}
```

OUTPUT:



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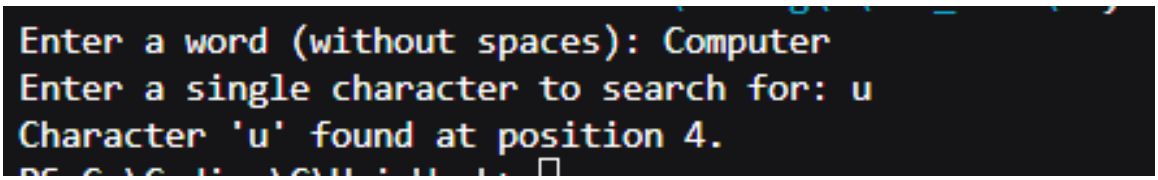
Q2

```
#include <stdio.h>
#include <string.h>

int main() {
   char word[50];
   char ch;
   char *res;


   printf("Enter a word (without spaces): ");
   scanf("%s", word);

   while(getchar() != '\n');

   printf("Enter a single character to search for: ");
   scanf("%c", &ch);

   res = strchr(word, ch);

   if (res != NULL) {

      printf("Character '%c' found at position %d.\n", ch,res - word );
   } else {
      printf("Character not found.\n");
   }

   return 0;
}
```

OUTPUT:



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Q3

```
#include <stdio.h>
#include <string.h>

int main() {
   char code1[100];
   char code2[100];
   int n;

   printf("Enter the first product code: ");
   scanf("%s", code1);
   printf("Enter the second product code: ");
   scanf("%s", code2);
   printf("Enter the number of characters to compare: ");
   scanf("%d", &n);

   if (n > strlen(code1) || n > strlen(code2)) {
      printf("The comparison will stop at the end of the shorter string, because one of the codes is
shorter than %d characters\n\n" , n);
   }

   if (!(strncmp(code1, code2, n))) {
      printf("The first %d characters MATCH.\n", n);
      printf("These products belong to the same category.\n");
   } else {
      printf("The first %d characters DO NOT match.\n", n);
      printf("These products are in different categories.\n");
   }
   return 0;
}
```

OUTPUT:

```
> cd "c:\Coding\C\Uni_Wo
Enter the first product code: ABX1234
Enter the second product code: ABX5645
Enter the number of characters to compare: 3
The first 3 characters MATCH.
These products belong to the same category.
```

PF LAB 09

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Q4

```
#include <stdio.h>
#include <stdlib.h>

int main() {
   FILE *fptr;
   int ids[3];
   int readIds[3];
   int i;

   fptr = fopen("library.txt", "w");

   if (fptr == NULL) {
      printf("Error: Could not create or open file.\n");
      exit(1);
   }

   printf("--- Library Data Entry ---\n");
   for (i = 0; i < 3; i++) {
      printf("Enter Book ID %d: ", i + 1);
      scanf("%d", &ids[i]);
   }

   for (i = 0; i < 3; i++) {
      fprintf(fptr, "%d\n", ids[i]);
   }

   printf("Data successfully written to library.txt.\n");

   fclose(fptr);

   printf("\n--- Reading Data from File ---\n");

   fptr = fopen("library.txt", "r");

   if (fptr == NULL) {
      printf("Error: Could not open file for reading.\n");
      exit(1);
```

PF LAB 09

ROLL NUMBER: 25K-0892 **SECTION: BCS-1K**

```
    }

    printf("The Book IDs retrieved from the file are:\n");

    for (i = 0; i < 3; i++) {
        fscanf(fptr, "%d", &readIds[i]);
        printf("ID: %d\n", readIds[i]);
    }

    fclose(fptr);

    return 0;
}
```

OUTPUT:

```
--- Library Data Entry ---
Enter Book ID 1: 7847
Enter Book ID 2: 4894
Enter Book ID 3: 4541
Data successfully written to library.txt.

--- Reading Data from File ---
The Book IDs retrieved from the file are:
ID: 7847
ID: 4894
ID: 4541
```