

Assignments 1

EX 1

The screenshot displays an IDE interface with the following components:

- Menu Bar:** File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, Help.
- Toolbar:** Standard IDE icons for file operations, editing, and running.
- Project Explorer:** Shows a project structure with 'Lecture 3_Lab 1' containing 'Lecture 3_Assignment 1_EX 1 [Mastering-Embedded-System-O]' which includes 'Binaries', 'Includes', 'Debug', and 'Lecture 3_Assignment 1_EX 1.c'.
- Editor:** Displays the code for 'Lecture 3_Assignment 1_EX 1.c'. The code is as follows:

```
1 /*
2  * Lecture 3_Assignment 1_EX 1.c
3  *
4  * Created on: 27 Jul 2022
5  * Author: Muhammad Osama
6  */
7
8 //EX1:
9 //
10 //Write C Program to Print a Sentence
11 //
12 //i should see the Console as following:
13 //#####Console-output###
14 //C Programming
15
16 #include<stdio.h>
17 int main(void) {
18     printf("C Programming");
19 }
20
```
- Outline:** Shows the file structure: 'stdio.h' and 'main(void) : int'.
- Console:** Shows the output of the program: '<terminated> (exit value: 0) Lecture 3_Assignment 1_EX 1.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessones Assignments' followed by 'C Programming'.
- Status Bar:** Shows the file path: '/Lecture 3_Assignment 1_EX 1/Lecture 3_Assignment 1_EX 1.c'.

EX 2

The screenshot displays an IDE with the following components:

- Project Explorer:** Shows a project structure with folders for Lecture 3_Lab 1, Lecture 3_Assignment 1_EX 1, and Lecture 3_Assignment 1_EX 2 [Mastering-Embedded-System-Online-Diploma]. The file Lecture 3_Assignment 1_EX 2.c is selected.
- Code Editor:** Contains the source code for Lecture 3_Assignment 1_EX 2.c. The code is as follows:

```
1 /*
2  * Lecture 3_Assignment 1_EX 2.c
3  *
4  * Created on: 27 Jul 2022
5  * Author: Muhammad Osama
6  */
7
8
9 //EX2:
10 //
11 //Write C Program to Print a Integer Entered by a User
12 //i should see the Console as following:
13 //#####Console-output###
14 //Enter a integer: 25
15 //You entered: 25
16
17 #include<stdio.h>
18 int main(void) {
19     int x;
20     printf("Enter a integer: ");
21     fflush(stdin); fflush(stdout);
22     scanf("%d",&x);
23     printf("You entered: %d",x);
24     fflush(stdin); fflush(stdout);
25 }
26
```
- Outline:** Shows the file structure with stdio.h and main(void) : int.
- Console:** Displays the output of the program execution. The text shows: <terminated> (exit value: 0) Lecture 3_Assignment 1_EX 2.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessones Assignments'. Enter a integer: 25. You entered: 25.

EX 3

The screenshot displays an IDE interface with the following components:

- Project Explorer:** Shows a project structure with folders for 'Lecture 3_Lab 1', 'Lecture 3_Assignment 1_EX 1', 'Lecture 3_Assignment 1_EX 2', and 'Lecture 3_Assignment 1_EX 3'. The 'Lecture 3_Assignment 1_EX 3' folder is expanded, showing sub-items like 'Binaries', 'Includes', 'Debug', and 'Lecture 3_Assignment 1_EX 3.c'.
- Code Editor:** Displays the source code for 'Lecture 3_Assignment 1_EX 3.c'. The code includes a comment describing the task and a C program that prompts the user for two integers and prints their sum.
- Outline:** Shows the structure of the program, including 'stdio.h' and the 'main(void) : int' function.
- Console:** Shows the output of the program execution, including the prompt 'Enter two integers: 12' and the result 'Sum: 23'.

```
20 * Lecture 3_Assignment 1_EX 3.c
7
8 /*
9 EX 3
10 Write C Program to Add Two Integers
11
12 i should see the Console as following:
13 #####Console-output###
14 Enter two integers: 12
15 11
16 Sum: 23
17 */
18
19 #include "stdio.h"
20
21 int main(void) {
22     int x,y;
23     printf("Enter two integers: ");
24     fflush(stdin); fflush(stdout);
25     scanf("%d\n%d",&x, &y);
26     printf("Sum: %d",x+y);
27     fflush(stdin); fflush(stdout);
28     return 0;
29 }
30
```

Console Output:

```
<terminated> (exit value: 0) Lecture 3_Assignment 1_EX 3.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessones Assignments
Enter two integers: 12
11
Sum: 23
```

EX 4

The screenshot displays an IDE with the following components:

- Project Explorer:** Shows a project structure with folders for Lecture 3_Lab 1, Lecture 3_Assignment 1_EX 1, Lecture 3_Assignment 1_EX 2, Lecture 3_Assignment 1_EX 3, and Lecture 3_Assignment 1_EX 4 [Mastering-Embedded-System-O]. The file Lecture 3_Assignment 1_EX 4.c is selected.
- Code Editor:** Contains the C program for multiplying two floating-point numbers. The code is as follows:

```
2+ * Lecture 3_Assignment 1_EX 4.c
7
8
9- /*
10 * EX4:
11
12 Write C Program to Multiply two Floating Point Numbers
13 i should see the Console as following:
14 #####Console-output###
15
16 Enter two numbers: 2.4
17 1.1
18 Product: 2.640000
19 */
20
21 #include<stdio.h>
22- int main(void) {
23     float x,y;
24     printf("Enter two numbers: ");
25     fflush(stdin); fflush(stdout);
26     scanf("%f\n%f",&x,&y);
27     printf("Product: %f", x*y);
28     fflush(stdin); fflush(stdout);
29 }
30
```
- Outline:** Shows the file structure with stdio.h and main(void) : int.
- Console:** Displays the output of the program: <terminated> (exit value: 0) Lecture 3_Assignment 1_EX 4.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessoness Assignments'. The input and output are: 'Enter two numbers: 2.4', '1.1', and 'Product: 2.640000'.

EX 5

The screenshot displays an IDE with the following components:

- Project Explorer:** Shows a project structure with folders for Lecture 3_Lab 1, Lecture 3_Assignment 1_EX 1, Lecture 3_Assignment 1_EX 2, Lecture 3_Assignment 1_EX 3, and Lecture 3_Assignment 1_EX 4. The current file is Lecture 3_Assignment 1_EX 5.c.
- Code Editor:** Contains the following C code:

```
1 /*
2  * Lecture 3_Assignment 1_EX 5.c
3  *
4  * Created on: 27 Jul 2022
5  * Author: Muhammad Osama
6  */
7
8 /*
9  * EX5:
10
11 Write C Program to Find ASCII Value of a Character
12
13 #####Console_output#####
14 Enter a character: G
15 ASCII value of G = 71
16 */
17
18 #include <stdio.h>
19
20 int main(void) {
21     char x;
22     printf("Enter a character: ");
23     fflush(stdin); fflush(stdout);
24     scanf("%c", &x);
25     printf("ASCII value of %c = %d", x, x);
26 }
27
```
- Outline:** Shows the file structure with stdio.h and main(void) : int.
- Console:** Displays the program output:

```
<terminated> (exit value: 0) Lecture 3_Assignment 1_EX 5.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessones Assignments\
Enter a character: G
ASCII value of G = 71
```

EX 6

The screenshot displays the Visual Studio IDE interface. The **Project Explorer** on the left shows a project named "Lecture 3_Assignment 1_EX 6 [Mastering-Embedded-System-Online-Diploma-C-Lessons Assignments]" with subfolders for Binaries, Includes, Debug, and the source file "Lecture 3_Assignment 1_EX 6.c".

The main editor window shows the source code for "Lecture 3_Assignment 1_EX 6.c". The code is a C program that prompts the user to enter two floating-point numbers, swaps them, and prints the results. The code is as follows:

```
20 * Lecture 3_Assignment 1_EX 6.c
7
8 /*
9  *EX6:
10
11 Write Source Code to Swap Two Numbers
12
13 #####Console_output#####
14 Enter value of a: 1.20
15 Enter value of b: 2.45
16
17 After swapping, value of a = 2.45
18 After swapping, value of b = 1.2
19
20 */
21
22 #include<stdio.h>
23 int main(void){
24     float a,b;
25     printf("Enter value of a: ");
26     fflush(stdin); fflush(stdout);
27     scanf("%f",&b);
28     printf("Enter value of b: ");
29     fflush(stdin); fflush(stdout);
30     scanf("%f",&a);
31     printf("After swapping, value of a = %.2f\nAfter swapping, value of b = %.1f",a,b);
32     fflush(stdin); fflush(stdout);
33 }
34
```

The **Outline** pane on the right shows the file structure, including "stdio.h" and "main(void) : int".

The **Console** pane at the bottom shows the output of the program, which matches the expected behavior described in the code comments:

```
<terminated> (exit value: 0) Lecture 3_Assignment 1_EX 6.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessones Assignments
Enter value of a: 1.20
Enter value of b: 2.45
After swapping, value of a = 2.45
After swapping, value of b = 1.2
```

Ex 7

The screenshot displays the Visual Studio IDE interface. The Project Explorer on the left shows a project structure with folders for Lecture 3 assignments. The main editor window shows the source code for `Lecture_3_Assignment_1_EX_7.c`. The code implements a swap function using arithmetic operations. The console window at the bottom shows the program's execution, including prompts for input and the final output after swapping.

```
2 * Lecture_3_Assignment_1_EX_7.c
7
8 /*
9  * EX7:
10 it is an interview trick
11
12 Write Source Code to Swap Two Numbers without temp variable.
13 */
14
15 #include<stdio.h>
16
17 int main(void) {
18     float x,y;
19
20     printf("Enter value of a: ");
21     fflush(stdin); fflush(stdout);
22     scanf("%f",&x);
23
24     printf("\nEnter value of b: ");
25     fflush(stdin); fflush(stdout);
26     scanf("%f",&y);
27
28     x = x+y;
29     y = x-y;
30     x = x-y;
31
32     printf("\nAfter swapping, value of a = %.0f\n and value of b = %.0f",x,y);
33     fflush(stdin); fflush(stdout);
34 }
35
```

Problems Tasks Console Properties Debugger Console

<terminated> (exit value: 0) Lecture_3_Assignment_1_EX_7.exe [C/C++ Application] M:\Eng\Embedded Systems Diploma\Lessones Assessments\Mastering-Embedded-System-Online-Diploma\C-Lessones Assignments\Unit 2\Lecture_3_Assign

Enter value of a: 4

Enter value of b: 5

After swapping, value of a = 5
and value of b = 4

http://download.ecl...neon/content.xml.xz