

The screenshot shows the Eclipse IDE with a C program file named `C_Basics_Assignment.c`. The code includes standard headers, defines `flush`, and contains two exercises: `EX1` and `EX2`. `EX1` prints a message and the string "C programming". `EX2` prompts the user for an integer, reads it, and prints it back. Below the code editor, the console shows the output of the program, indicating it terminated successfully.

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

#define flush fflush(stdin); fflush(stdout);

//EX1:
void ex1()
{
    printf("***EX1_Homework1***\n");
    printf("C programming\n\n");
}

//EX2:
void ex2()
{
    printf("***EX2_Homework1***\n");
    int num;
    printf("Enter an integer: ");
    flush;
    scanf("%d",&num);
    printf("You entered: %d\n\n",num);
}

//EX3:
int ex3(int num1, int num2)
{
    int sum = num1 + num2;
    return sum;
}

//EX5:
void ex5()
{
    printf("***EX5_Homework1***\n");
    char c;
    printf("Enter a character: ");
    flush;
    scanf("%c",&c);
    printf("ASCII value of %c = %d\n\n",c,(int)c);
}

//EX7: swapping without using temp variable
void ex7()
{
    printf("***EX7_Homework1***\n");
    float a, b;
    printf("Enter the value of a: ");
    flush;
    scanf("%f",&a);
    printf("Enter the value of b: ");
    flush;
    scanf("%f",&b);

    a=a+b;
    b=a-b;
    a=a-b;

    printf("\nNew value of a is: %f\n\n", a);
    printf("New value of b is: %f\n\n", b);
}

//Homework 2

```

Console Output:

```
***EX1_Homework1***
C programming
***EX2_Homework1***
Enter an integer: 123
You entered: 123
***EX3_Homework1***
Enter two integers: 10 20
Sum: 30
***EX5_Homework1***
Enter a character: a
ASCII value of a = 97
***EX7_Homework1***
Enter the value of a: 1.5
Enter the value of b: 2.5
New value of a is: 4.0
New value of b is: 1.0
```

This screenshot shows the same Eclipse IDE with the `C_Basics_Assignment.c` file. The code now includes `EX5` and `EX7`. `EX5` reads a character and prints its ASCII value. `EX7` reads two floating-point numbers, swaps them without using a temporary variable, and prints the new values. The console output shows the results of these exercises.

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

#define flush fflush(stdin); fflush(stdout);

//EX1:
void ex1()
{
    printf("***EX1_Homework1***\n");
    printf("C programming\n\n");
}

//EX2:
void ex2()
{
    printf("***EX2_Homework1***\n");
    int num;
    printf("Enter an integer: ");
    flush;
    scanf("%d",&num);
    printf("You entered: %d\n\n",num);
}

//EX3:
int ex3(int num1, int num2)
{
    int sum = num1 + num2;
    return sum;
}

//EX5:
void ex5()
{
    printf("***EX5_Homework1***\n");
    char c;
    printf("Enter a character: ");
    flush;
    scanf("%c",&c);
    printf("ASCII value of %c = %d\n\n",c,(int)c);
}

//EX7: swapping without using temp variable
void ex7()
{
    printf("***EX7_Homework1***\n");
    float a, b;
    printf("Enter the value of a: ");
    flush;
    scanf("%f",&a);
    printf("Enter the value of b: ");
    flush;
    scanf("%f",&b);

    a=a+b;
    b=a-b;
    a=a-b;

    printf("\nNew value of a is: %f\n\n", a);
    printf("New value of b is: %f\n\n", b);
}

//Homework 2

```

Console Output:

```
***EX1_Homework1***
C programming
***EX2_Homework1***
Enter an integer: 123
You entered: 123
***EX3_Homework1***
Enter two integers: 10 20
Sum: 30
***EX5_Homework1***
Enter a character: a
ASCII value of a = 97
***EX7_Homework1***
Enter the value of a: 1.5
Enter the value of b: 2.5
New value of a is: 4.0
New value of b is: 1.0
```

eclipse-workspace - C_Basics_Assignment/src/C_Basics_Assignment.c - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- Assignment1
 - C_Basics_Assignment (in C_programming) [github_repo master]
 - lab-1
 - lab-2
 - MVC-lab (in section-5)
 - section-6 (in section-6)
 - test

greetingController.java greeting.html index.html section-6/pom.xml Section6Application.java test.cpp C_Basics_Assignment.c

```
69 .....
70 .....
71 ..... Homework 2 .....
72 //EX1:
73 void ex_1()
74 {
75     printf("***EX1_Homework2***\n");
76     int num;
77     printf("Enter an integer you want to check: ");
78     flush
79     scanf("%d", &num);
80
81     if(num%2==0)
82         printf("%d is even\n\n", num);
83     else
84         printf("%d is odd\n\n", num);
85 }
86
87
88 //EX2:
89 void ex_2()
90 {
91     printf("***EX2_Homework2***\n");
92     char c;
93     printf("Enter an alphabet: ");
94     flush
95     scanf("%c", &c);
96
97     switch(c)
98     {
99         case 'a':
100         case 'e':
101         case 'i':
102         case 'o':
103         case 'A':
104         case 'E':
105         case 'I':
106     }
```

Problems Tasks Console X Properties

terminated> (exit value: 0) C_Basics_Assignment Debug (1) [C/C++ Application] D:\Embedded Diploma\github_repo\C_programming\Debug\C_Basics_Assignment.exe (5/2/23, 5:33 PM)

EX1_Homework1

C programming

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6:37 PM 02-May-23

eclipse-workspace - C_Basics_Assignment/src/C_Basics_Assignment.c - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- Assignment1
 - C_Basics_Assignment (in C_programming) [github_repo master]
 - lab-1
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greetingController.java greeting.html index.html section-6/pom.xml Section6Application.java test.cpp C_Basics_Assignment.c

```
88
89 //EX2:
90 void ex_2()
91 {
92     printf("***EX2_Homework2***\n");
93     char c;
94     printf("Enter an alphabet: ");
95     flush
96     scanf("%c", &c);
97
98     switch(c)
99     {
100         case 'a':
101         case 'e':
102         case 'i':
103         case 'o':
104         case 'A':
105         case 'E':
106         case 'I':
107         case 'O':
108         printf("%c is a vowel.\n\n", c);
109         break;
110         default:
111         printf("%c is a consonant.\n\n", c);
112         break;
113     }
114 }
115
116 //EX3:
117 void ex_3()
118 {
119     printf("***EX3_Homework2***\n");
120     float num1,num2,num3,max;
121     printf("Enter three numbers: ");
122     flush
123     scanf("%f %f %f", &num1, &num2, &num3);
124 }
```

Problems Tasks Console X Properties

terminated> (exit value: 0) C_Basics_Assignment Debug (1) [C/C++ Application] D:\Embedded Diploma\github_repo\C_programming\Debug\C_Basics_Assignment.exe (5/2/23, 5:33 PM)

EX1_Homework1

C programming

Type here to search

6:37 PM 02-May-23

```
eclipse-workspace - C_Basics_Assignment/src/C_Basics_Assignment.c - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer
  Assignment1
    > C_Basics_Assignment (in C_programming) [github_repo master]
    > lab-1
    > lab-2
    > MVC-lab (in section-5)
    > section-6 (in section-6)
    > test

C_Basics_Assignment.c
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112
113 //EX3:
114 void ex_3()
115 {
116     printf("****EX3_Homework2****\n");
117     float num1,num2,num3,max;
118     printf("Enter three numbers: ");
119     flush
120     scanf("%f %f %f", &num1, &num2, &num3);
121
122     max = num1;
123     if(num2>max)
124         max=num2;
125     if(num3>max)
126         max=num3;
127     printf("Largest number: %f\n",max);
128 }
129
130 //EX5:
131 void ex_5()
132 {
133     char c;
134     printf("****EX5_Homework2****\n");
135     printf("Enter a character: ");
136     flush
137     scanf("%c", &c);
138
139     if((c>='a' && c<='z') || (c>='A' && c<='Z'))
140         printf("%c is an alphabet\n", c);
141     else
142         printf("%c is not an alphabet\n",c);
143 }
144
145 //EX7:
146 void ex_7()
147 {
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```
eclipse-workspace - C_Basics_Assignment/src/C_Basics_Assignment.c - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer
  Assignment1
  > C_Basics_Assignment (in C_programming) [github_repo master]
  > lab-1
  > lab-2
  > MVC-lab (in section-5)
  > section-6 (in section-6)
  > test

C_Basics_Assignment.c
174 // EX1
175 void ex_8()
176 {
177     char c;
178     float num1, num2;
179     printf("****EX8_Homework2****\n");
180     printf("Enter an operator, either + or - or * or divide(/): ");
181     flush;
182     scanf("%c",&c);
183
184     printf("Enter two operands: ");
185     flush;
186     scanf("%f %f",&num1,&num2);
187
188     switch(c)
189     {
190     case '+':
191         printf("%f + %f = %f\n",num1, num2, (num1+num2));
192         break;
193     case '-':
194         printf("%f - %f = %f\n",num1, num2, (num1-num2));
195         break;
196     case '*':
197         printf("%f * %f = %f\n",num1, num2, (num1*num2));
198         break;
199     case '/':
200         if(num2!=0)
201             printf("%f / %f = %f\n",num1, num2, (num1/num2));
202         else
203             printf("error! operand 2 = 0\n");
204         break;
205     default:
206         printf("please enter one of the mentioned operators\n");
207         break;
208     }
209 }
210 }

Problems Tasks Console Properties
terminated> (exit value: 0) C_Basics_Assignment Debug (1) [C/C++ Application] D:\Embedded Diploma\github_repo\C_programming\Debug\C_Basics_Assignment.exe (5/2/23, 5:33 PM)
****EX1_Homework1****
C programming
```

```
eclipse-workspace - C_Basics_Assignment/src/C_Basics_Assignment.c - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer
  Assignment1
  > C_Basics_Assignment (in C_programming) [github_repo master]
  > lab-1
  > lab-2
  > MVC-lab (in section-5)
  > section-6 (in section-6)
  > test

C_Basics_Assignment.c
211 int main(void)
212 {
213     // Homework 1:
214     ex1();
215     ex2();
216
217     // ex3:
218     printf("****EX3_Homework1****\n");
219     int num1, num2;
220     printf("Enter two integers: ");
221     flush;
222     scanf("%d",&num1);
223     scanf("%d",&num2);
224     printf("%d\n", ex3(num1,num2));
225
226     ex5();
227     ex7();
228
229     // Homework 2:
230
231     ex_1();
232     ex_2();
233     ex_3();
234     ex_5();
235     ex_7();
236     ex_8();
237
238     return 0;
239 }
240 }

Problems Tasks Console Properties
terminated> (exit value: 0) C_Basics_Assignment Debug (1) [C/C++ Application] D:\Embedded Diploma\github_repo\C_programming\Debug\C_Basics_Assignment.exe (5/2/23, 5:33 PM)
****EX1_Homework1****
C programming
```

The screenshot shows the Eclipse IDE with the 'C_Basics_Assignment.c' file open. The console output displays the results of several test cases:

```
***EX1_Homework1***
C programming

***EX2_Homework1***
Enter an integer: 13
You entered: 13

***EX3_Homework1***
Enter two integers: 3
5
8

***EX5_Homework1***
Enter a character: m
ASCII value of m = 109

***EX7_Homework1***
Enter the value of a: 1.6
Enter the value of b: 7.3
New value of a is: 7.300000
New value of b is: 1.600000

***EX1_Homework2***
Enter an integer you want to check: 84
84 is even

***EX2_Homework2***
Enter an alphabet: o
o is a vowel
```

The screenshot shows the Eclipse IDE with the 'C_Basics_Assignment.c' file open. The console output displays the results of several test cases:

```
***EX1_Homework2***
Enter an integer you want to check: 84
84 is even

***EX2_Homework2***
Enter an alphabet: o
o is a vowel

***EX3_Homework2***
Enter three numbers: 1.2
3.9
11.7
Largest number: 11.700000

***EX5_Homework2***
Enter a character: b
b is an alphabet

***EX7_Homework2***
Enter a number: 12
factorial = 479001600

***EX8_Homework2***
Enter an operator, either + or - or * or divide(/): *
Enter two operands: 3
151
3.000000 * 151.000000 = 453.000000
```