

ENG 224 Assignment

C Programming

Victor Okolo

18/ENG02/076
COMPUTER ENGINEERING

Number 1

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

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

```
int main()
```

```
{
```

```
    int days, years, weeks;
```

```
    days= 1343;
```

```
    years = days/365;
```

```
    weeks = (days % 365)/7;
```

```
    days = days- ((years*365) + (weeks*7));
```

```
    printf("Years: %d\n", years);
```

```
    printf("Weeks: %d\n", weeks);
```

```
    printf("Days: %d \n", days);
```

```
    return 0;
```

```
}
```

```
//NAME: Victor Okolo
```

```
//Matric Number:18/ENG02/076 //Computer Engineering
```

The screenshot displays the Code::Blocks IDE interface. The main editor window shows the source code for 'main.c', which includes the program logic and the author's identification information. The output window on the right shows the execution results, and the logs window at the bottom shows the compilation and execution process.

```
main.c [C assignment] - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
main.c: int
Management
Projects Symbols Files
Workspace
C assignment
Sources
main.c
1 #include <stdio.h>
2 #include <stdlib.h>
3
4
5 int main()
6 {
7     int days, years, weeks;
8
9     days= 1343;
10
11     years = days/365;
12     weeks = (days % 365)/7;
13     days = days- ((years*365) + (weeks*7));
14
15     printf("Years: %d\n", years);
16     printf("Weeks: %d\n", weeks);
17     printf("Days: %d \n", days);
18
19     return 0;
20 }
21
22 //NAME: Victor Okolo
23 //Matric Number:18/ENG02/076
24 //Computer Engineering
25
"C:\Users\Victor Okolo\Desktop\ENG C\C assignment 1\bin\Debug\C assignment.exe"
Years: 3
Weeks: 35
Days: 3
Process returned 0 (0x0)   execution time : 0.049 s
Press any key to continue.
Logs and others
Code::Blocks Search results Cccc Build log Build messages CppCheck/Ver++ CppCheck/Ver++ messages Cscope Debugger DoxyBlocks
----- Run: Debug in C assignment (compiler: GNU GCC Compiler)-----
Checking for existence: C:\Users\Victor Okolo\Desktop\ENG C\C assignment 1\bin\Debug\C assignment.exe
Executing: "C:\Program Files (x86)\CodeBlocks\cb_console_runner.exe" "C:\Users\Victor Okolo\Desktop\ENG C\C assignment 1\bin\Debug\C assignment.exe" (in C:\Users\Victor Okolo\Desktop\ENG C\C assignment 1\.)
C/C++ Windows (CR+LF) WINDOWS-1252 Line 8, Col 1, Pos 89 Insert Read/Write default 9:30 PM
```

Number 2

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

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

```
#include <math.h>
```

```
int main()
```

```
{  
  
    float x1, y1, x2, y2, distancebetweenthepoints;  
    printf("Input x1: ");  
    scanf("%f", &x1);  
    printf("Input y1: ");  
    scanf("%f", &y1);  
    printf("Input x2: ");  
    scanf("%f", &x2);  
    printf("Input y2: ");  
    scanf("%f", &y2);  
    distancebetweenthepoints = ((x2-x1)*(x2-x1))+((y2-y1)*(y2-y1));  
    printf("Distance between the two points: %.4f", sqrt(distancebetweenthepoints));  
    printf("\n");  
    return 0;  
}
```

```
//Name: Victor Okolo
```

```
//Matric Number:18/ENG02/076
```

```
//Department: Computer Engineering
```



Management

Projects Symbols Files

Workspace

- Assignment number 2
 - Sources
 - main.c

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <math.h>
4
5 int main()
6 {
7
8     float x1, y1, x2, y2, distancebetweenthepoints;
9     printf("Input x1: ");
10    scanf("%f", &x1);
11    printf("Input y1: ");
12    scanf("%f", &y1);
13        printf("Input x2: ");
14    scanf("%f", &x2);
15    printf("Input y2: ");
16    scanf("%f", &y2);
17    distancebetweenthepoints = ((x2-x1)*(x2-x1))+((y2-y1)*(y2-y1));
18    printf("Distance between the two points: %.4f", sqrt(distancebetweenthepoints));
19    printf("\n");
20    return 0;
21 }
22
23 //Name: Victor Okolo
24 //Matrix Number:18/ENG02/076
25 //Department: Computer Engineering
26
```

"C:\Users\Victor Okolo\Desktop\C assignment number 2\bin\Debug\C assignment number 2.exe"

```
Input x1: 5
Input y1: 10
Input x2: 20
Input y2: 40
Distance between the two points: 33.5410

Process returned 0 (0x0)   execution time : 213.333 s
Press any key to continue.
```



Number 3

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

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

```
int main()
```

```
{
```

```
    float x, y, z, P, A;
```

```
    printf("\nLength of first side: ");
```

```
    scanf("%f", &x);
```

```
    printf("\nLength of second side: ");
```

```
    scanf("%f", &y);
```

```
    printf("\nLength of third side: ");
```

```
    scanf("%f", &z);
```

```
    if(x < (y+z) && y < (x+z) && z < (y+x))
```

```
    {
```

```
        P = x+y+z;
```

```
        printf("Triangle can be formed");
```

```
        printf("\nPerimeter = %.1f\n", P);
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("Not possible to create a triangle..!");
```

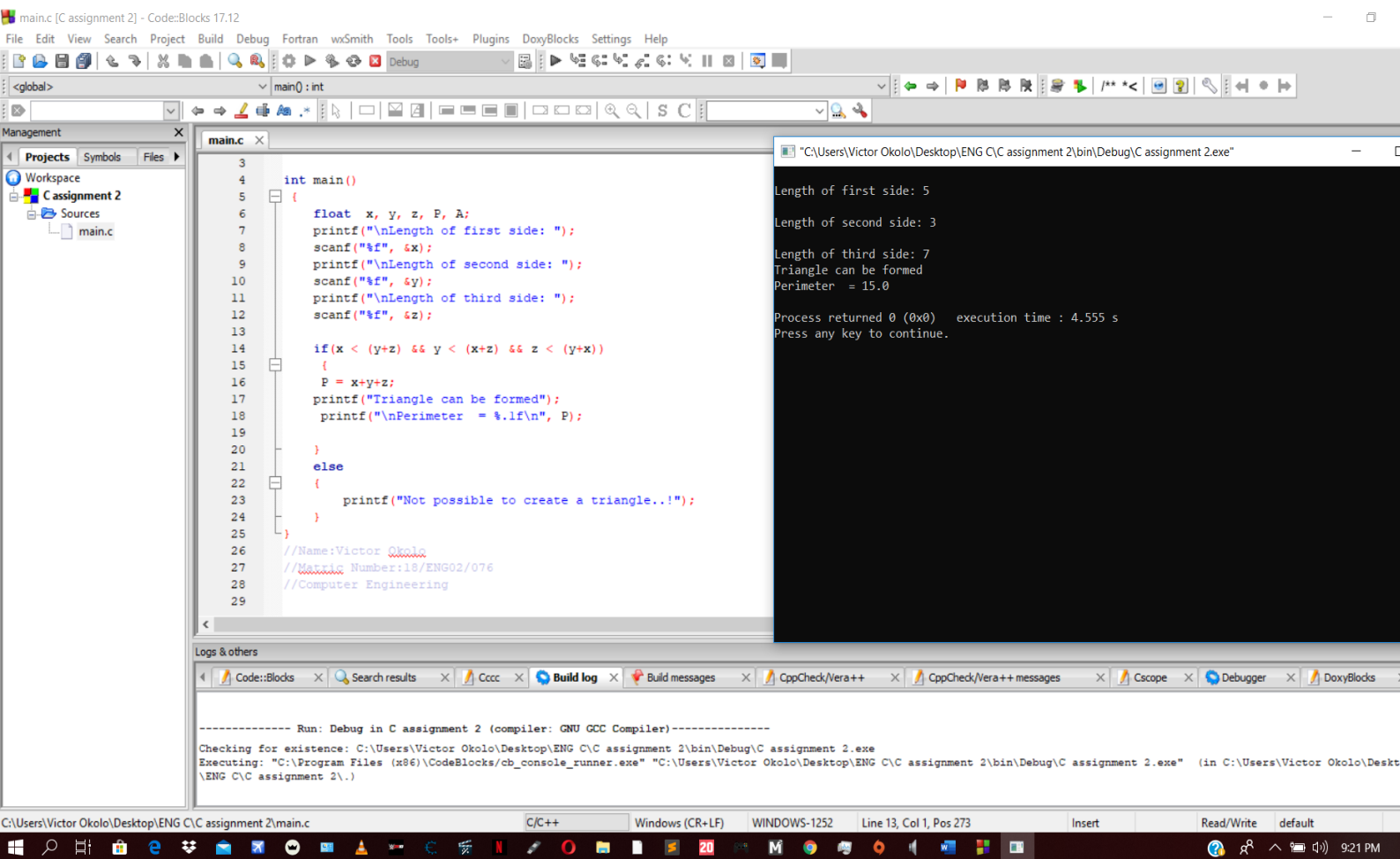
```
    }
```

```
}
```

```
//Name:Victor Okolo
```

```
//Matric Number:18/ENG02/076
```

```
//Computer Engineering
```



Number 4

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

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

```
int main()
```

```
{
```

```
    int age;
```

```
    int cnt_baby=0,cnt_school=0,cnt_adult=0;
```

```
    int count=0;
```

```
while(count<20)
{
    printf("Enter person's age [%d]: ",count+1);
    scanf("%d",&age);

    if(age>=0 && age<=4)
        cnt_baby++;
    else if(age>=5 && age<=17)
        cnt_school++;
    else
        cnt_adult++;

    count++;
}

printf("Still a baby: %d\n",cnt_baby);
printf("Still in School: %d\n",cnt_school);
printf("Adult life: %d\n",cnt_adult);

return 0;
}
```

//Name:Victor Okolo

//Matric Number:18/ENG02/076

//Computer Engineering

The screenshot shows the Code::Blocks IDE with a C program in the editor and its execution output in the console. The program prompts the user to enter a person's age 20 times and classifies them into categories: baby (0-4), school (5-17), and adult (18+). The output shows the counts for each category: 8 babies, 4 in school, and 8 adults. The program also includes a comment with the user's name, matric number, and department.

```
13 {
14     printf("Enter person's age [%d]: ",count+1);
15     scanf("%d",&age);
16
17     if(age>=0 && age<=4)
18         cnt_baby++;
19     else if(age>=5 && age<=17)
20         cnt_school++;
21     else
22         cnt_adult++;
23
24
25     count++;
26 }
27
28 printf("Still a baby: %d\n",cnt_baby);
29 printf("Still in School: %d\n",cnt_school);
30 printf("Adult life: %d\n",cnt_adult);
31
32 return 0;
33 }
34
35
36 //Name:Victor Okolo
37 //Matric Number:18/ENG02/076
38 //Computer Engineering
39
```

Enter person's age [1]: 1
Enter person's age [2]: 2
Enter person's age [3]: 0
Enter person's age [4]: 4
Enter person's age [5]: 3
Enter person's age [6]: 4
Enter person's age [7]: 5
Enter person's age [8]: 18
Enter person's age [9]: 17
Enter person's age [10]: 23
Enter person's age [11]: 21
Enter person's age [12]: 50
Enter person's age [13]: 4
Enter person's age [14]: 1616
Enter person's age [15]: 09
Enter person's age [16]: 5
Enter person's age [17]: 2
Enter person's age [18]: 33
Enter person's age [19]: 30
Enter person's age [20]: 20
Still a baby: 8
Still in School: 4
Adult life: 8
Process returned 0 (0x0) execution time : 50.809 s
Press any key to continue.

----- Run: Debug in C assignment 4 (compiler: GNU GCC Compiler)-----
Checking for existence: C:\Users\Victor Okolo\Desktop\C assignment 4\bin\Debug\C assignment 4.exe
Executing: "C:\Program Files (x86)\CodeBlocks\cb_console_runner.exe" "C:\Users\Victor Okolo\Desktop\C assignment 4\bin\Debug\C assignment 4.exe"
assignment 4\.)

Number 5

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

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

```
#include <time.h>
```

```
int main()
```

```
{
```

```
    int random_genNo=0,count=0,num;
```

```
    int stime;
```

```
    long ltime;
```

```
    ltime = time(NULL);
```

```
    stime = (unsigned) ltime/2;
```



```
srand(stime);
```

```
//generates random number
```

```
random_genNo=rand()%100;
```

```
while(1)
```

```
{
```

```
    //increases the count
```

```
    count+=1;
```

```
    //reads the inputted number from the user
```

```
    printf("\n\nGuess a number from (0 to 100): ");
```

```
    scanf("%d",&num);
```

```
    //compares the inputted number with the generated number
```

```
    if(random_genNo==num){
```

```
        printf("Congratulations, you have guessed the correct number.");
```

```
        break;
```

```
    }
```

```
    else if(random_genNo<num){
```

```
        printf("Generated number is less than the number you entered, try again...");
```

```
    }
```

```
    else if(random_genNo>num){
```

```
        printf("Generated number is greater than the number you entered, try again...");
```

```
    }
```

```
    if(count==6){
```

```
        printf("\n\n You have one last try !!!\n");
```

```
    }
```

```
    if(count==7){
```

```
        printf("\n\nYou have used all your tries, BAD LUCK !!!\n");
```

```
        break;
```

```
}
```

```
}
```

```
return 0;
```

```
}
```

```
//Name:Victor Okolo
```

```
//Matric Number:18/ENG02/076
```

```
//Computer Engineering
```

Output if you guess the correct number

The screenshot displays a C++ IDE with a source code editor on the left and a console window on the right. The source code is as follows:

```
5
6
7 int main()
8 {
9     int random_genNo=0,count=0,num;
10    int stime;
11    long ltime;
12
13    ltime = time(NULL);
14    stime = (unsigned) ltime/2;
15    srand(stime);
16
17    //generates random number
18    random_genNo=rand()*100;
19
20
21
22    while(1)
23    {
24        //increases the count
25        count++;
26
27        //reads the inputed number from the user
28        printf("\n\nGuess a number from (0 to 100): ");
29        scanf("%d",&num);
30
31        //compares the inputed number with the generated number
32
33        if(random_genNo==num){
34            printf("Congratulations, you have guessed the correct number.");
35            break;
36        }
37        else if(random_genNo<num){
38            printf("Generated number is less than the number you entered, try again...");
39        }
40        else if(random_genNo>num){
41            printf("Generated number is greater than the number you entered, try again...");
42        }
43        if(count==6){
44            printf("\n\n You have one last try !!!\n");
45        }
46        if(count==7){
47            printf("\n\n You have used all your tries, BAD LUCK !!!\n");
48            break;
49        }
50    }
```

The console window shows the following output:

```
"C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\bin\Debug\C assignment 5.exe"
Guess a number from (0 to 100): 50
Generated number is less than the number you entered, try again...
Guess a number from (0 to 100): 40
Generated number is less than the number you entered, try again...
Guess a number from (0 to 100): 30
Generated number is less than the number you entered, try again...
Guess a number from (0 to 100): 20
Generated number is less than the number you entered, try again...
Guess a number from (0 to 100): 10
Generated number is greater than the number you entered, try again...
Guess a number from (0 to 100): 15
Generated number is greater than the number you entered, try again...
You have one last try !!!
Guess a number from (0 to 100): 17
Congratulations, you have guessed the correct number.
Process returned 0 (0x0)   execution time : 47.860 s
Press any key to continue.
```

At the bottom, the 'Logs & others' window shows the build and execution process:

```
----- Run: Debug in C assignment 5 (compiler: GNU GCC Compiler)-----
Checking for existence: C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\bin\Debug\C assignment 5.exe
Executing: "C:\Program Files (x86)\CodeBlocks\cb_console_runner.exe" "C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\bin\Debug\C assignment 5.exe" (in C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\)
```

Output if you use up all your tries

Management

- Projects
- Symbols
- Files

Workspace

- C assignment 5
- Sources

```

5
6
7 int main()
8 {
9     int random_genNo=0,count=0,num;
10    int stime;
11    long ltime;
12
13    ltime = time(NULL);
14    stime = (unsigned) ltime/2;
15    srand(stime);
16
17    //generates random number
18    random_genNo=rand()%100;
19
20
21    while(1)
22    {
23        //increases the count
24        count++;
25
26        //reads the inputed number from the user
27        printf("\n\nGuess a number from (0 to 100): ");
28        scanf("%d",&num);
29
30        //compares the inputed number with the generated number
31
32        if(random_genNo==num){
33            printf("Congratulations, you have guessed the correct number.");
34            break;
35        }
36        else if(random_genNo<num){
37            printf("Generated number is less than the number you entered, try again...");
38        }
39        else if(random_genNo>num){
40            printf("Generated number is greater than the number you entered, try again...");
41        }
42        if(count==6){
43            printf("\n\n You have one last try !!!\n");
44        }
45        if(count==7){
46            printf("\n\n You have used all your tries, BAD LUCK !!!\n");
47            break;

```

"C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\bin\Debug\C assignment 5.exe"

```

Guess a number from (0 to 100): 10
Generated number is greater than the number you entered, try again...
Guess a number from (0 to 100): 20
Generated number is greater than the number you entered, try again...
Guess a number from (0 to 100): 30
Generated number is greater than the number you entered, try again...
Guess a number from (0 to 100): 40
Generated number is greater than the number you entered, try again...
Guess a number from (0 to 100): 60
Generated number is greater than the number you entered, try again...
Guess a number from (0 to 100): 80
Generated number is greater than the number you entered, try again...

You have one last try !!!

Guess a number from (0 to 100): 95
Generated number is less than the number you entered, try again...
You have used all your tries, BAD LUCK !!!

Process returned 0 (0x0)   execution time : 35.974 s
Press any key to continue.

```

Logs & others

Code::Blocks | Search results | Cccc | Build log | Build messages | CppCheck/Vera++ | CppCheck/Vera++ messages | Cscope | Debugger | DoxyE

```

----- Run: Debug in C assignment 5 (compiler: GNU GCC Compiler)-----
Checking for existence: C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\bin\Debug\C assignment 5.exe
Executing: "C:\Program Files (x86)\CodeBlocks\cb_console_runner.exe" "C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\bin\Debug\C assignment 5.exe" (in C:\Users\Victor Okolo\Desktop\ENG C\C assignment 5\)

```