

Solution to Question 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("%dYears",years);

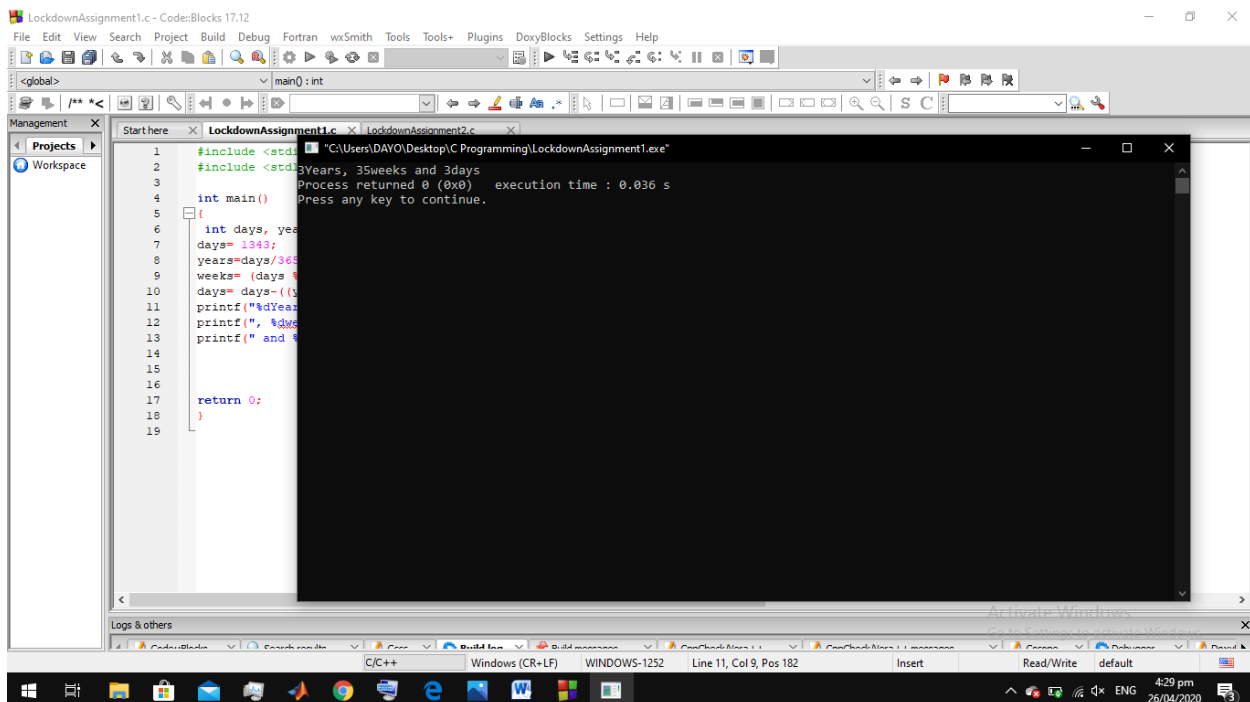
    printf(" , %dweeks",weeks);

    printf(" and %ddays",days);

    return 0;

}
```

Solution to Question 1 Output



The screenshot shows a code editor window titled "LockdownAssignment1.c - Code::Blocks 17.12". The editor displays the C++ code from the previous block. The output window shows the following text: "3Years, 35weeks and 3days", "Process returned 0 (0x0) execution time : 0.036 s", and "Press any key to continue." The code editor also shows the same code as above, with line numbers 1 through 19. The Windows taskbar at the bottom shows the time as 4:29 pm on 26/04/2020.

Solution to Question 2

```
#include <stdio.h>

#include <stdlib.h>

int main()

{
    float x1, x2, y1, y2, distance, x,y;

    printf("Enter x1:\n");

    scanf("%f",&x1);

    printf("enter x2:\n");

    scanf("%f", &x2);

    printf("Enter y1:\n");

    scanf("%f",&y1);

    printf("Enter y2:\n");

    scanf("%f",&y2);

    x=(x2-x1);

    y = (y2-y1);

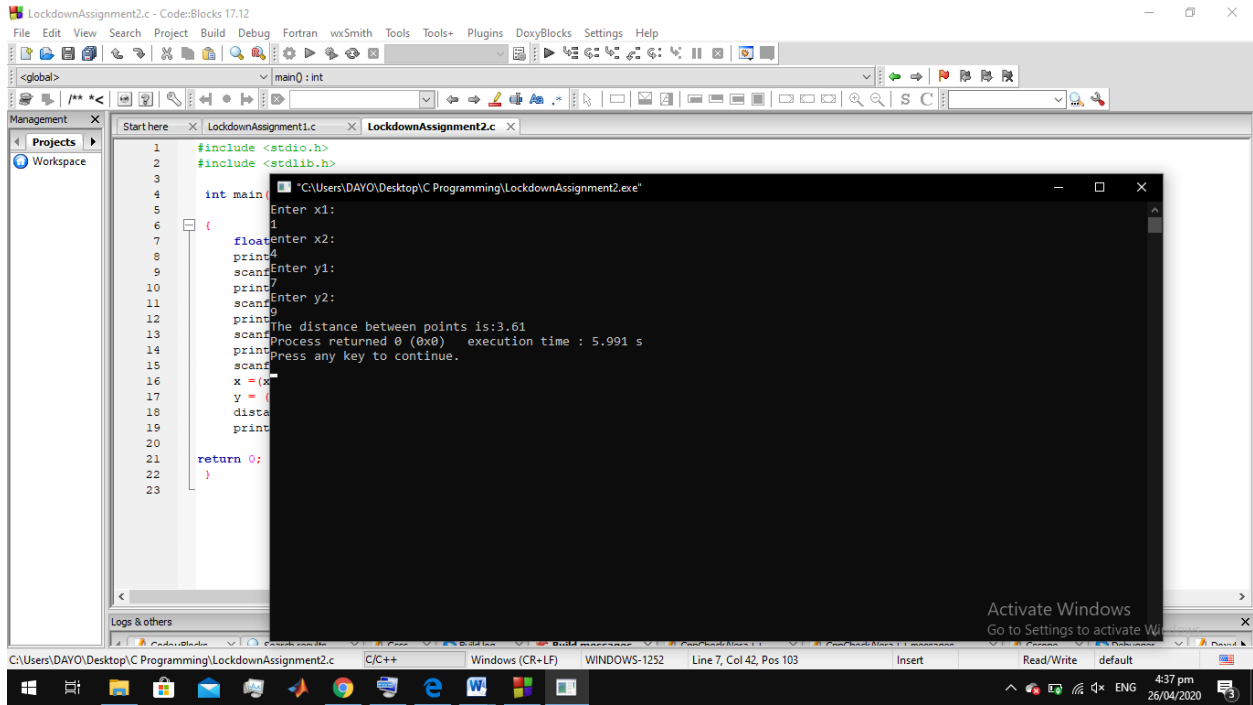
    distance = sqrt((x*x)+(y*y));

    printf("The distance between points is:%0.2f",distance);

return 0;

}
```

Solution to Question 2 Output



The image shows a screenshot of a C++ IDE (Code::Blocks) with a source code editor and a console window. The source code in the editor is as follows:

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int main()
5 {
6     int x1;
7     float x2;
8     printf("Enter x1:");
9     scanf("%d", &x1);
10    printf("Enter x2:");
11    scanf("%f", &x2);
12    printf("The distance between points is:");
13    scanf("%f", &x2);
14    printf("Process returned 0 (0x0)  execution time : 5.991 s\n");
15    printf("press any key to continue.");
16    scanf("%c", &x);
17    x = (x * 10) / 10;
18    y = (y * 10) / 10;
19    dist = sqrt(x*x + y*y);
20    printf("Distance = %f", dist);
21
22    return 0;
23 }
```

The console window shows the following output:

```
Enter x1:
1
Enter x2:
4
Enter y1:
7
Enter y2:
9
The distance between points is:3.61
Process returned 0 (0x0)  execution time : 5.991 s
press any key to continue.
```

The IDE interface includes a menu bar (File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, Help), a toolbar, and a status bar at the bottom showing the file path, language (C/C++), and system information (4:37 pm, 26/04/2020).

Solution to Question 3

```
#include<stdio.h>

#include<stdlib.h>

int main()

{

float A, B, C, Perimeter;

printf("Enter the first side:");

scanf("%f",&A);

printf("Enter the second side:");

scanf("%f",&B);

printf("Enter the third side:");

scanf("%f",&C);

if((B+C)>A && (A+C)>B && (B+A)>C)

{

    Perimeter= A+B+C;

    printf(" The perimeter is %.2f",Perimeter);

}

else

{

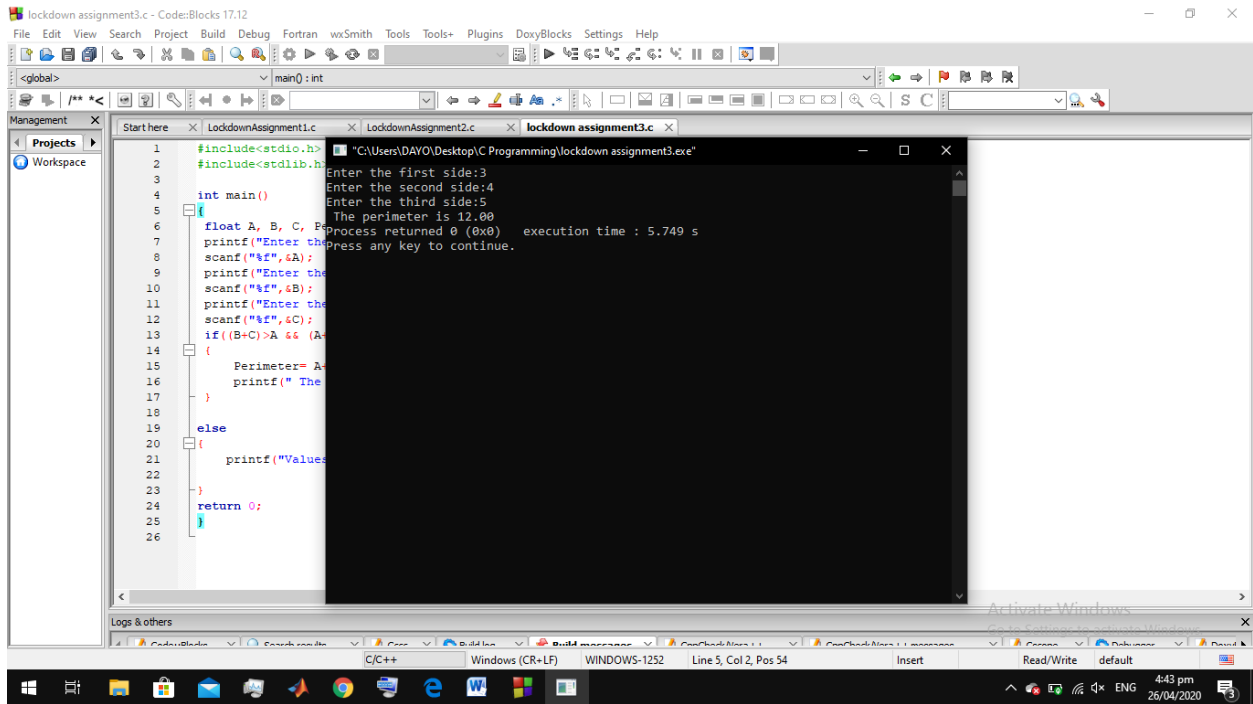
    printf("Values cannot create a triangle!");

}

return 0;

}
```

Solution to Question 3 Output



The screenshot shows a code editor window titled "lockdown assignment3.c - Code::Blocks 17.12". The editor displays the following C code:

```
1 #include<stdio.h>
2 #include<stdlib.h>
3
4 int main()
5 {
6     float A, B, C, P;
7     printf("Enter the first side:");
8     scanf("%f",&A);
9     printf("Enter the second side:");
10    scanf("%f",&B);
11    printf("Enter the third side:");
12    scanf("%f",&C);
13    if((B+C)>A && (A+C)>B && (A+B)>C)
14    {
15        P = A+B+C;
16        printf("The perimeter is %.2f\n",P);
17    }
18    else
19    {
20        printf("Values are not valid\n");
21    }
22    return 0;
23 }
24
25
26
```

The output window shows the execution results:

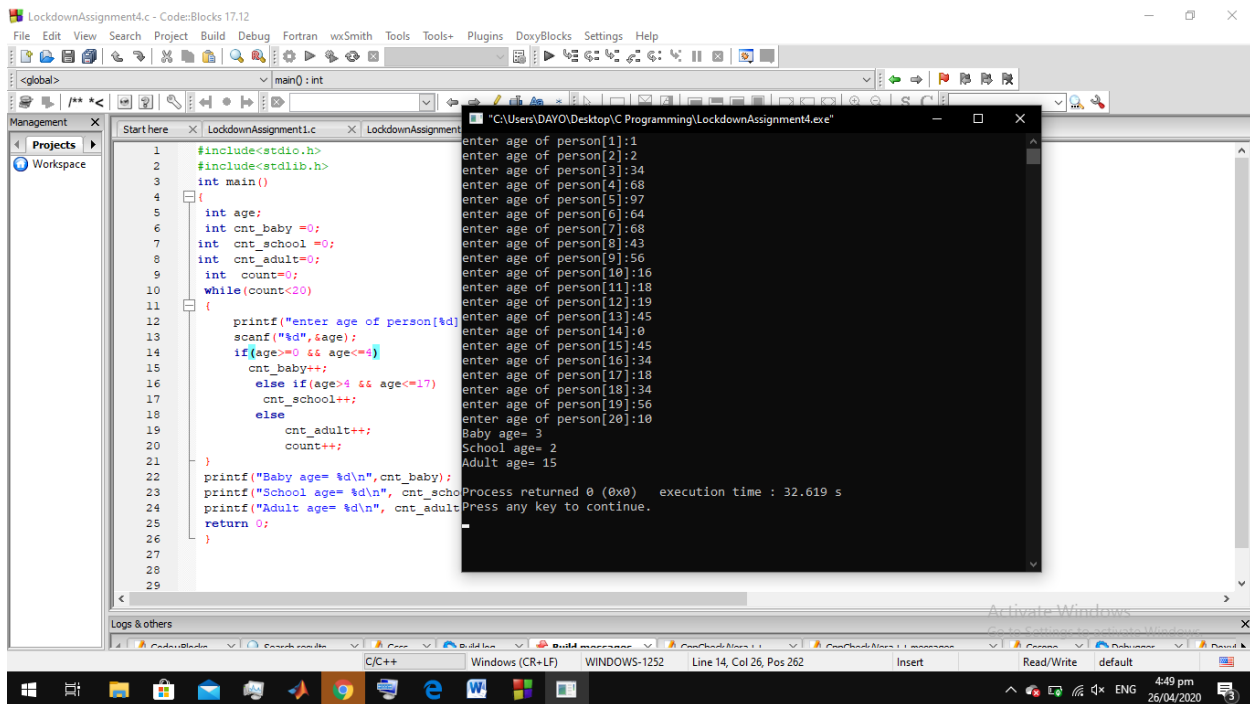
```
Enter the first side:3
Enter the second side:4
Enter the third side:5
The perimeter is 12.00
Process returned 0 (0x0)   execution time : 5.749 s
Press any key to continue.
```

The Windows taskbar at the bottom shows the system tray with the date and time: 4:43 pm, 26/04/2020.

Solution to Question 4

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int age;
    int cnt_baby =0;
    int cnt_school =0;
    int cnt_adult=0;
    int count=0;
    while(count<20)
    {
        printf("enter age of person[%d]:", count+1);
        scanf("%d",&age);
        if(age>=0 && age<=4)
            cnt_baby++;
        else if(age>4 && age<=17)
            cnt_school++;
        else
            cnt_adult++;
        count++;
    }
    printf("Baby age= %d\n",cnt_baby);
    printf("School age= %d\n", cnt_school) ;
    printf("Adult age= %d\n", cnt_adult);
    return 0;
}
```

Solution to Question 4 Output



```
LockdownAssignment4.c - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
main() : int
Management
Projects
Workspace
Start here LockdownAssignment1.c LockdownAssignment4.c
1 #include<stdio.h>
2 #include<stdlib.h>
3 int main()
4 {
5     int age;
6     int cnt_baby =0;
7     int cnt_school =0;
8     int cnt_adult=0;
9     int count=0;
10    while(count<20)
11    {
12        printf("enter age of person[%d]\n", count);
13        scanf("%d", &age);
14        if(age>=0 && age<=4)
15            cnt_baby++;
16        else if(age>4 && age<=17)
17            cnt_school++;
18        else
19            cnt_adult++;
20        count++;
21    }
22    printf("Baby age= %d\n", cnt_baby);
23    printf("School age= %d\n", cnt_school);
24    printf("Adult age= %d\n", cnt_adult);
25    return 0;
26 }
27
28
29
"C:\Users\DAYO\Desktop\C Programming\LockdownAssignment4.exe"
enter age of person[1]:1
enter age of person[2]:2
enter age of person[3]:34
enter age of person[4]:68
enter age of person[5]:97
enter age of person[6]:64
enter age of person[7]:68
enter age of person[8]:43
enter age of person[9]:56
enter age of person[10]:16
enter age of person[11]:18
enter age of person[12]:19
enter age of person[13]:45
enter age of person[14]:0
enter age of person[15]:45
enter age of person[16]:34
enter age of person[17]:18
enter age of person[18]:34
enter age of person[19]:56
enter age of person[20]:10
Baby age= 3
School age= 2
Adult age= 15
Process returned 0 (0x0)   execution time : 32.619 s
Press any key to continue.
```

Solution to Question 5

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

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

```
int main()
```

```
{
```

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

```
    int stime;
```

```
    long ltime;
```

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

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

```
    srand(stime);
```

```
random_genNo = rand()%100;

while(1)

{

    count+=1;

    printf("\n\nGuess a number from(1 to 100):");

    scanf("%d",&num);

    if(random_genNo==num)

    {

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

        break;

    }

else if(num>random_genNo)

{

    printf("The entered number is greater than the generated number.");

}

else if(num<random_genNo)

{

    printf("The entered number is less than the generated number.");

}

if (count==6)

{

    printf("\nYou have one more attempt.");

}

if (count==7)

{

    printf("\n\n### You have used all your attempts, better luck next time");

    break;

}
```



```

}

}

printf("\n\nThe Random generated number was:%d",random_genNo);

return 0;

}

```

Solution to Question 5 Output

The screenshot shows the Code::Blocks IDE with a C program and its execution output. The program is a number-guessing game with 5 attempts. The generated number is 85. The user guesses 12, 34, 56, 78, and 90. The program outputs the generated number and the number of attempts used.

```

main.c - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
main() : int
Management
Projects
Workspace
20 {
21     printf("Congratulations, you have guessed the correct number.");
22 }
23
24 else
25 {
26     Guess a number from(1 to 100):12
27     The entered number is less than the generated number.
28 }
29 else
30 {
31     Guess a number from(1 to 100):34
32     The entered number is less than the generated number.
33 }
34 if (
35 {
36     Guess a number from(1 to 100):56
37     The entered number is less than the generated number.
38 }
39 if (
40 {
41     Guess a number from(1 to 100):78
42     The entered number is less than the generated number.
43 }
44 if (
45 {
46     Guess a number from(1 to 100):90
47     The entered number is greater than the generated number.
48     You have one more attempt.
49 }
50 }
51 printf("The Random generated number was:85\n");
52 return 0;
53 }
54
55 ### You have used all your attempts, better luck next time
56
57 The Random generated number was:85
58 Process returned 0 (0x0)   execution time : 9.570 s
59 Press any key to continue.

```

Windows taskbar: 4:55 pm, 26/04/2020