

NAME : TOWURU JESUTOFUNMI NISSI

MATRIC NUMBER : 18/ENG02/095

DEPARTMENT : COMPUTER ENGINEERING

ENG 224 : C PROG ASSIGNMENT

1) Write a C program to convert 1343 days into years, weeks and days (Note: Ignore leap year).

```
struct prog assignment 1 cbp.cpp - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Start here X struct prog assignment 1 cbp.cpp X main.cpp X main.cpp X main.cpp X main.cpp X
1  #include <stdio.h>
2  int main()
3  {
4      int days, years, weeks;
5
6      days= 1343;
7
8      years = days/365;
9      weeks= (days % 365)/7;
10     days = days- ((years*365) + (weeks*7));
11
12     printf("Years: %d\n", years);
13     printf("Weeks: %d\n", weeks);
14     printf("Days: %d \n", days);
15
16     return 0;
17 }
18 //TOWURU JESUTOFUNMI NISSI
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21
```

```
Years: 3
Weeks: 35
Days: 3

Process returned 0 (0x0)   execution time : 0.149 s
Press any key to continue.
```

2) Write a C program to calculate the distance between the two points. Note: x1, y1, x2, y2 are all double

```
main.cpp - Code::Blocks 20.03
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Start here X struct prog assignment 1 cbp.cpp X main.cpp X main.cpp X main.cpp X main.cpp X
1  #include <stdio.h>
2  #include <math.h>
3
4  int main() {
5      float x1, y1, x2, y2, gdistance;
6      printf("Input x1: ");
7      scanf("%f", &x1);
8      printf("Input y1: ");
9      scanf("%f", &y1);
10     printf("Input x2: ");
11     scanf("%f", &x2);
12     printf("Input y2: ");
13     scanf("%f", &y2);
14     gdistance = ((x2-x1)*(x2-x1))+((y2-y1)*(y2-y1));
15     printf("Distance between the said points: %.4f", sqrt(gdistance));
16     printf("\n");
17     return 0;
18 }
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```

```
Input x1: 5
Input y1: 10
Input x2: 15
Input y2: 20
Distance between the said points: 14.1421
Process returned 0 (0x0)   execution time : 9.150 s
Press any key to continue.
```

3. Write a C program that reads three floating values and check if it is possible to make a triangle with them. Also, calculate the perimeter of the triangle if the said values are valid.

```
main.cpp - Code::Blocks 20.03
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Start here X struct prog assignment 1 cbp.cpp X main.cpp X main.cpp X main.cpp X main.cpp X
1  #include <stdio.h>
2  int main() {
3      float x, y, z, P, A;
4      printf("\nInput the first number: ");
5      scanf("%f", &x);
6      printf("\nInput the second number: ");
7      scanf("%f", &y);
8      printf("\nInput the third number: ");
9      scanf("%f", &z);
10
11     if(x < (y+z) && y < (x+z) && z < (y+x))
12     {
13         P = x+y+z;
14         printf("\nPerimeter = %.1f\n", P);
15     }
16     else
17     {
18         printf("OOPS! not possible, triangle cant be created!");
19     }
20 }
21
22 //TOWURU JESUTOFUNMI NISSI
23 //COMPUTER ENGINEERING
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```

```
Input the first number: 5
Input the second number: 3
Input the third number: 7
Perimeter = 15.0
Process returned 0 (0x0) execution time : 360.280 s
Press any key to continue.
```

4. Write a C program to read age of 20 people and count total Baby age, School age and Adult age.

Hint:

a) Still a baby- age 0 to 4 b) Attending school - age 5 to 17 c) Adult life-age 18 & over [Using while loop]

```
main.cpp - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Start here x struct prog assignment 1 cbp.cpp x main.cpp x main.cpp x main.cpp x main.cpp x
1 #include <stdio.h>
2 int main()
3 {
4     int age;
5     int cnt_baby=0,cnt_school=0,cnt_adult=0;
6     int count=0;
7
8     while(count<20)
9     {
10        printf("Enter age of person [%d]: ",count+1);
11        scanf("%d",&age);
12
13        if(age>=0 && age<=4)
14            cnt_baby++;
15        else if(age>=5 && age<=17)
16            cnt_school++;
17        else
18            cnt_adult++;
19
20        count++;
21    }
22
23    printf("Baby age: %d\n",cnt_baby);
24    printf("School age: %d\n",cnt_school);
25    printf("Adult age: %d\n",cnt_adult);
26
27    return 0;
28 }
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32
```

```
Enter age of person [1]: 0
Enter age of person [2]: 50
Enter age of person [3]: 20
Enter age of person [4]: 21
Enter age of person [5]: 16
Enter age of person [6]: 10
Enter age of person [7]: 15
Enter age of person [8]: 18
Enter age of person [9]: 25
Enter age of person [10]: 70
Enter age of person [11]: 50
Enter age of person [12]: 10
Enter age of person [13]: 33
Enter age of person [14]: 25
Enter age of person [15]: 13
Enter age of person [16]: 12
Enter age of person [17]: 18
Enter age of person [18]: 30
Enter age of person [19]: 19
Enter age of person [20]: 45
Baby age: 1
School age: 6
Adult age: 13

Process returned 0 (0x0)   execution time : 77.656 s
Press any key to continue.
```

5. Write a C-program to read a random number and then ask user to guess it (from 0 to 100).

Hint:

User guess correct number, which is to be generated randomly. The program will give 7 attempts to the user. On each attempt, program will inform the user that entered number is less than or greater than the random generated number.

```
Start here X struct prog assignment 1 cbp.cpp X main.cpp X main.cpp X main.cpp X main.cpp X
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <time.h>
4
5
6  int main()
7  {
8      int stime, random_genNo=0, count=0, num;
9      long ltime;
10
11
12     ltime = time(NULL);
13     stime = (ltime/2);
14     srand(stime);
15
16     random_genNo=(21);
17
18     while(1)
19     {
20         count++;
21
22         printf("\n\n Hi please enter your current Guess from (0 to 100): ");
23         scanf("%d", &num);
24
25         if(random_genNo==num){
26             printf("You guessed right! You win");
27             break;
28         }
29         else if(random_genNo<num){
30             printf("your guess is greater than random number");
31         }
32         else if(random_genNo>num){
33
34         }
35
36         if(count==7){
37             printf("oops,you have entered the maximum amount of tries! better luck next time!\n\n");
38             break;
39         }
40     }
41
42     return 0;
43 }
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47
```

```
Hi please enter your current Guess from (0 to 100): 70
your guess is greater than random number

Hi please enter your current Guess from (0 to 100): 60
your guess is greater than random number

Hi please enter your current Guess from (0 to 100): 40
your guess is greater than random number

Hi please enter your current Guess from (0 to 100): 11
your guess is less than number generated

Hi please enter your current Guess from (0 to 100): 33
your guess is greater than random number

Hi please enter your current Guess from (0 to 100): 25
your guess is greater than random number

Hi please enter your current Guess from (0 to 100): 10
your guess is less than number generatedoops,you have entered the maximum amount of tries! better luck next time!

Process returned 0 (0x0)   execution time : 32.779 s
Press any key to continue.
```