**EGBUNU HIKMAT IGANYA**

**18/ENG03/025**

**CIVIL ENGINEERING**

**C –PROGRAMMING ASSIGNMENT**

**(1). Write a c program to convert 1343 days into years, weeks and days**

1. #include<stdio.h>
2. Int main( )
3. {
4. Int days, years, weeks;
5. Days= 1343;
6. //convert days to years, weeks and days
7. Years= days/365;
8. Weeks= (days%365)/7;
9. Days= days-(( years\*365) + (weeks\*7));
10. Printf (“years: %d/n”, years);
11. Printf (“weeks: %d/n”, weeks);
12. Printf (“days: %d/n”, days);
13. Return 0;
14. }

**(2). Write a c program to calculate the distance between the point points Note: x1, x2, y1, y2 are all double values. Formula:** $\sqrt{x2-x1}+√(y2-y1)$

1. #include<stdio.h>
2. #include<math.h>
3. Int main( )
4. {
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 (x\*x + y\*y);
16. printf (“/n”);
17. return 0;
18. }

**(3). write a c program that reads 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.**

 Perimeter: 5+7+3= 15

Triangle formula: first two sides is greater than the third

A+B> C A+C> B B+C> A

5+7> 3 5+3> 7 7+3>5

12>3 8>7 10>5

TRUE TRUE TRUE

 $∴5, 7, 3 makes a Triangle.$

C Code:

1. #include <stdio.h>
2. Int main( )
3. {
4. Float x, y, z, P, A;
5. Printf (“/ninput the first number: “);
6. Scanf (“%f”, &X);
7. Printf (“/ninput the second number: “);
8. Scanf (“%f “, &Y);
9. Printf (“/ninput the third number :”);
10. Scanf (“%f “, &Z);
11. If( (X< (Y+Z) && Y< (X+Z) && Z< (Y+X))
12. {
13. P= X+Y+Z
14. Printf (“/n perimeter= %. If/n”, P);
15. }
16. Else
17. {
18. Printf (“ not possible to create a triangle..!”);
19. return 0;
20. }

**4. write a c program to read age of 20 people and count total baby age, school age and adult age. Still a baby- age 0-4, Attending school- age 5-17, Adult life- age 18 & over.**

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. While ( count < 20)
8. {
9. Printf (“ enter age of person [%d]:, count+1);
10. Scanf (“%d”, &age);
11. If (age> =0 && age < =4)
12. Cnt baby ++ ;
13. Else if (age> =5 && age< =17)
14. Cnt school ++ ;
15. Else
16. Cnt\_adult ++:
17. //increase counter
18. Count ++;
19. }
20. Printf (“baby age: %d/n”, cnt\_baby);
21. Printf (“school age: %d/n”, cnt\_school);
22. Printf (“adult age: %d/n”, cnt\_adult);
23. return 0;
24. }

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

1. #include <stdio.h>
2. #include <stdlib.h>
3. #include <time.h>
4. Int main ( )
5. {
6. Int random\_num= 0;
7. Int guessed\_num= 0;
8. Int counter= 0;
9. Srand (time(NULL));
10. Random\_num= rand( )%100 + 1;
11. Printf (“ guess my number!”);
12. While(1);
13. {
14. Counter ++;
15. Scanf (“%d, &guessed\_num);
16. If (guessed\_num = = random\_num);
17. {
18. Printf (“you guessed correctly in %d tries! Congratulations !/n”, counter”);
19. Break;
20. }
21. If (guessed\_num < random\_num)
22. Printf (“your guess is too low. Guess again,”);
23. If (guessed\_num > random\_num)
24. Printf (“your guess is too hugh. Guess again.”);
25. }
26. return 0;
27. }