**NAME: Oshenye Michael Oghenegare**

**DEPARTMENT: Electrical and Electronics Engineering**

**MATRIC NO: 19/ENG04/065**

**COURSE TITLE: Structured Programming**

**COURSE CODE: ENG 224**

**C PROGRAMMING ASSIGNMENT**

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

**Program Code:**

1. #include<stdio.h>
2. void main()
3. {
4. int nodays,years, weeks,days;
5. printf("Enter the total days\n");
6. scanf("%d",&nodays);
7. years=nodays/365;
8. weeks=(nodays%365)/7;
9. days=(nodays%365)%7;
10. printf("%d = %d years,%d weeks,%d days\n",nodays,years,weeks,days);
11. }

**Output:**

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



**Program Code:**

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

**Output:**

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1. 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.



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**Program Code:**

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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. if(x < (y+z) && y < (x+z) && z < (y+x))
11. {
12. P = x+y+z;
13. printf("\nPerimeter = %.1f\n", P);
14. }
15. else
16. {
17. printf("Not possible to create a triangle..!");
18. }
19. }

**Output:**

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1. Write a C program to read age of 20 people and count total baby age, school age and adult age. Hint:
	1. Still a baby- age 0 to 4
	2. Attending school - age 5 to 17
	3. Adult life-age 18 & over

[Using while loop]

Program Code:

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<15)
8. {
9. printf("Enter age of person [%d]: ",count+1);
10. scanf("%d",&age);
11. **if**(age>=0 && age<=5)
12. cnt\_baby++;
13. **else if**(age>=6 && 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. }

**Output:**

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1. 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.

**Program Code:**

1. #include <stdio.h>
2. #include <stdlib.h>
3. #include <time.h>
4. int main()
5. {
6. int random\_genNo=0,count=0,num;
7. int stime;
8. long ltime;
9. //initialise srand with current time, to get random number on every run
10. ltime = time(NULL);
11. stime = (unsigned) ltime/2;
12. srand(stime);
13. //generate random number
14. random\_genNo=rand()%100;
15. //run infinite loop
16. while(1)
17. {
18. //increase counter
19. count+=1;
20. //read number from user
21. printf("\n\nGuess a number from (0 to 100): ");
22. scanf("%d",&num);
23. //compare entered number with generated number
24. if(random\_genNo==num){
25. printf("You have guessed a correct number.");
26. break;
27. }
28. else if(random\_genNo<num){
29. printf("Generated number is less than entered number, try again...");
30. }
31. else if(random\_genNo>num){
32. printf("Generated number is greater than entered number, try again...");
33. }
34. if(count==7){
35. printf("\n\n### Maximum limit of attempt reached\n");
36. break;
37. }
38. }
39. return 0;
40. }

**Output:**

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