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Computer Engineering

15/ENG02/044

### Question One

1 Write a C program to convert 1343 days into years, weeks and days.

Soln

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

```
int main ()
```

```
{
```

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

```
days = 1343;
```

```
// to convert days to years, weeks and days.
```

```
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;
```

```
}
```

## Question Two

2 Write a Program to calculate the distance between the two Points.

Note:  $x_1, x_2, y_2$  are all double values.

Soln

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

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

```
int main()
```

```
{
```

```
    float x1, y1, x2, y2, distance;
```

```
    printf("Input x1 value:");
```

```
    scanf("%f", &x1);
```

```
    printf("Input y1 value:");
```

```
    scanf("%f", &y1);
```

```
    printf("Input x2 value:");
```

```
    scanf("%f", &x2);
```

```
    printf("Input y2 value:");
```

```
    scanf("%f", &y2);
```

```
    distance = (pow(x2 - x1, 2) + (pow(y2 - y1, 2)));
```

```
    printf("Distance between the said points: %.4f", sqrt(distance));
```

```
    printf("\n");
```

```
    return 0;
```

```
}
```

### Question Three

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

```
int main ()
```

```
{
```

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

```
printf ("\nInput the first number: ");
```

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

```
printf ("\nInput the second number: ");
```

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

```
printf ("\nInput the third number: ");
```

```
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...!");
```

```
}
```

```
}
```

## Question Four

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

```
int main ()
```

```
{
```

```
    int age;
```

```
    int baby_age_counter = 0, sch_age_counter = 0, adult_age_counter = 0;
```

```
    int count = 0;
```

```
    while (count < 20)
```

```
    {
```

```
        printf ("Enter age of Person [%d]:", count + 1);
```

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

```
        if (age >= 0 && age <= 4) baby_age_counter ++;
```

```
        else if (age >= 5 && age <= 17) sch_age_counter ++;
```

```
        else adult_age_counter ++;
```

```
        count ++;
```

```
    }
```

```
    printf ("Baby age is : %d\n", baby_age_counter);
```

```
    printf ("School age is : %d\n", sch_age_counter);
```

```
    printf ("Adult age is : %d\n", adult_age_counter);
```

```
    return 0;
```

```
}
```

## Question Five

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

int main ()
{
    int random_genNo = 0, Count = 0, num;
    int stime;
    long ltime;

    //initialize random number ltime = time(NULL);
    stime = (unsigned) ltime/2;
    srand (stime);

    //generate random number from 0 to 100
    random_No = rand ()%100;
    Count = 1 // run infinite loop
    while (Count < 8)
    {
        printf (8-Count, " attempts remaining);
        //read number from user
        printf ("In\nGuess a number from (0 to 100):");
        scanf ("%d", &num);

        // Comparing number entered with generated number
```

```

if (random_No == num)
{
    printf("Bravo! You have guessed a correct number.");
    break;
}
else if (random_No < num)
{
    printf("Random number generated is less than number you entered,
    pls try again... \n");
}
else if (random_No > num)
{
    printf("Random number generated is greater than number you
    entered, pls try again... \n");
}
if (count == 7)
{
    printf("\n Trial limit reached, BAD Luck !!! \n");
    break;
}
// increase counter
counter += 1;
}
return 0;
}

```