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18/ENG07/014
PETROLEUM ENGINEERING
ENG 224

1. Conversion of 1343 days into years, weeks and days.

```
#include <stdio.h>
#define DAYSINWEEK 7
int main()
{
    int ndays, year, week, days;
    ndays=1343;

    year = ndays / 365;
    week =(ndays % 365) / DAYSINWEEK;
    days =(ndays % 365) % DAYSINWEEK;
    printf ("%d is equivalent to %d years, %d weeks and %d days",ndays, year, week, days);
    return 0;
}
```

output:

1343 is equivalent to 3 years, 35 weeks and 3 days

2. Distance between two points.

```
#include <stdio.h>
#include <math.h>
int main() {
    double x1, y1, x2, y2, distance;
    printf("Input x1: ");
    scanf("%lf", &x1);
    printf("Input y1: ");
    scanf("%lf", &y1);
    printf("Input x2: ");
    scanf("%lf", &x2);
    printf("Input y2: ");
    scanf("%lf", &y2);
    distance = ((x2-x1)*(x2-x1))+((y2-y1)*(y2-y1));
    printf("Distance between two points: %.4lf",
sqrt(distance));
    printf("\n");
    return 0;
}
```

output:

Input x1: 25

Input y1: 15

Input x2: 35

Input y2: 10

Distance between two points: 11.1803

3. Validate triangle is formed or not with given values and calculate perimeter.

```
#include <stdio.h>
int main()
{
    float side1, side2, side3,perimeter;
    printf("Enter three sides of triangle: \n");
    scanf("%f%f%f", &side1, &side2, &side3);
    if((side1 + side2 > side3) && (side1 + side3 > side2) && (side2 + side3 > side1))
    {
        printf("Triangle is valid.\n");
        perimeter=side1+side2+side3;
        printf("Perimeter is %f",perimeter);
    }
    else
    {
        printf("Triangle is not valid.");
    }
    return 0;
}
```

output:

Enter three sides of triangle:

3

5

7

Triangle is valid.

Perimeter is 15.000000

4. Count baby age, school age and adult age.

```
#include <stdio.h>
int main()
{
    int age;
    int count_baby=0,count_school=0,count_adult=0;
    int count=0;

    while(count<20)
    {
        printf("Enter age of person [%d]: ",count+1);
        scanf("%d",&age);

        if(age>=0 && age<=4)
            count_baby++;
        else if(age>=5 && age<=17)
            count_school++;
        else
            count_adult++;

        //increase counter
        count++;
    }

    printf("Baby age: %d\n",count_baby);
    printf("School age: %d\n",count_school);
    printf("Adult age: %d\n",count_adult);

    return 0;
}
```

Output:

Enter age of person [1]: 1

Enter age of person [2]: 11

Enter age of person [3]: 2

Enter age of person [4]: 12

Enter age of person [5]: 3

Enter age of person [6]: 13

Enter age of person [7]: 4

Enter age of person [8]: 14

Enter age of person [9]: 5

Enter age of person [10]: 15

Enter age of person [11]: 6

Enter age of person [12]: 16

Enter age of person [13]: 7

Enter age of person [14]: 17

Enter age of person [15]: 8

Enter age of person [16]: 18

Enter age of person [17]: 9

Enter age of person [18]: 19

Enter age of person [19]: 10

Enter age of person [20]: 0

Baby age: 5

School age: 13

Adult age: 2

5. Guess the number.

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>
int main()
{
    int random_No=0,count=0,num;
    int stime;
    long ltime;

    //initialise srand with current time, to get random number on every run
    ltime = time(NULL);
    stime = (unsigned) ltime/2;
    srand(stime);

    //generate random number
    random_No=rand()%100;

    //run infinite loop
    while(1)
    {
        //increase counter
        count+=1;

        //read number from user
        printf("\n\nGuess a number from (0 to 100): ");
        scanf("%d",&num);

        //compare entered number with generated number

        if(random_No==num){
            printf("Congratulations, you have guessed a correct number.");
            break;
        }
        else if(random_No<num){
            printf("Generated number is less than entered number, try your luck again...");
        }
        else if(random_No>num){
            printf("Generated number is greater than entered number, try your luck again...");
        }

        if(count==7){
            printf("\n\n### Maximum limit of attempt finished, BAD LUCK !!!\n");
            break;
        }
    }

    return 0;
}
```

Output:

Guess a number from (0 to 100): 44

Generated number is less than entered number, try your luck again...

Guess a number from (0 to 100): 44

Generated number is less than entered number, try your luck again...

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