October 19, 2017 Thursday

Lab 8
Functions in C

Marks: 5

Question 01:

Write a function to convert any given year into equivalent roman year. Table is given for help:

Decimal	Roman
1	i
5	v
10	x
50	l
100	c
500	d
1000	m

Question 02:

Suppose you are a coach of university tennis team. There are seven boys and three girls on the team of ten people. You have to select four people from this group to participate in country championship. Write a function that help you to find in how many ways you can choose the team. (HINT: factorial and combination formulae can be used).

Question 03:

A certain grade of steel is graded according to the following conditions

(i) Hardness must be greater than 50
(ii) Carbon content must be less than 70
(iii) Tensile strength must be greater than 5600

The grades are as follows:

- ✓ Grade is 10 if all three conditions are met.
- ✓ Grade is 9 if conditions (i) and (ii) are met.
- ✓ Grade is 8 if conditions (ii) and (iii) are met.
- ✓ Grade is 7 if conditions (i) and (iii) are met.
- ✓ Grade is 6 if only one condition is met.
- ✓ Grade is 5 if none of the conditions are met.

Design and develop a C function that accepts values of hardness, carbon content and tensile strength of the steel under consideration and returns the grade of the steel. Write a C program that invokes this function and print grade of steel.

Question 04:

Point out the errors, if any, in the following programs:

(a)
```
main( )
{       int i = 3,
        j = 4, k, l ;
        k = addmult ( i, j ) ;
        l = addmult ( i, j ) ;
        printf ( "\n%d %d", k, l ) ;
}

    addmult ( int ii, int jj )
    {   int kk, ll ;
        kk = ii + jj ;
        ll = ii * jj ;
        return ( kk, ll ) ;
    }
```

(b)
```
main( )
    {   int a ;   a =
    message( ) ;
    }

    message( ) {
        printf ( "\nViruses are written in C" ) ;
        return ;
    }
```

(c)
```
main( )
{
float a = 15.5 ;
char ch = 'C' ;
printit ( a, ch ) ;
}

    printit ( a, ch ) {
        printf ( "\n%f %c", a, ch ) ;
    }
```

(d)
```
main( )
    {
        message( ) ;
        message( ) ;
    } message(
    ) ; {
        printf ( "\nPraise worthy and C worthy are synonyms" ) ;
    }
```

(e)
```
main( )
    {
        let_us_c( )
        {
                printf ( "\nC is a Cimple minded language !" ) ;
                printf ( "\nOthers are of course no match !" ) ;
        }
    }
```

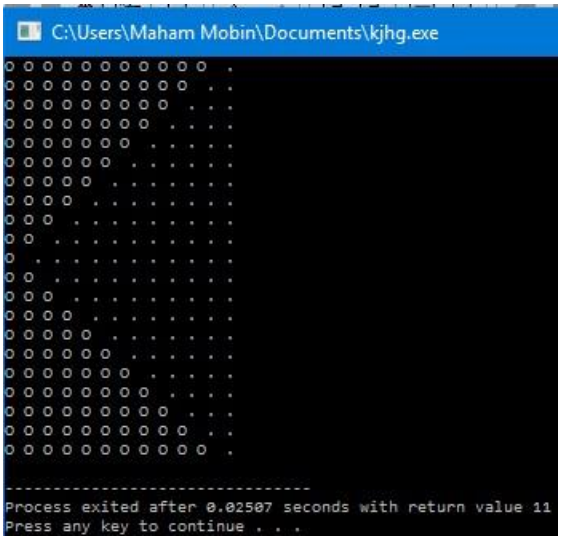
(f)
```
main( ) {
        message( message ( ) ) ;
    }
    void message( )
    {
     printf ( "\nPraise worthy and C worthy are synonyms" ) ; }
```

Question 05:

Write a function that takes N as argument and print shapes.

A) Generate the following output

B) Given shape should have 2N+1 rows as shown below here N=10.



C) Write a function in C Program to o print the given number pattern