# assignment cse lab

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## //Task 01 basis salary

#include <stdio.h>

void main ()

{

    double sal,hra,da,gro\_sal;

    printf("Enter the Salary: ");

    scanf("%lf",&sal);

    if(sal>=1 && sal<=4000) {

        hra = sal\*0.1;

        da = sal\*0.5;

    }

    else if(sal>=4001 && sal<=8000) {

        hra = sal\*0.2;

        da = sal\*0.6;

    }

    else if(sal>=8001 && sal<=12000) {

        hra = sal\*0.25;

        da = sal\*0.7;

    }

    else {

        hra = sal\*0.3;

        da = sal\*0.8;

    }

    gro\_sal = sal+hra+da;

    printf("Gross Salary = %.2lf\n",gro\_sal);

}

### //Explanation

It is the basis problem of c.For this problem I have just used simple logic

I have used conditional statement according to the task.I have also used logical operators according to the problem.Besides It was simple problem and so I solve the problem easily.

### //Task 02 swap number using call by reference function

#include<stdio.h>

void swap(int \*,int \*);

void main ()

{

int a,b;

printf("Enter two numbers to be swapped:\n");

scanf("%d%d",&a,&b);

printf("Before swapping value of a and b are:a=%d b=%d\n",a,b);

swap(&a,&b);

printf("After swapping value of a and b in the main function are:a=%d b=%d\n",a,b);

}

void swap(int \*a,int \*b)

{

int t;

t=\*a;

\*a=\*b;

\*b=t;

printf("After swapping value of a and b int the swap function are:a=%d b=%d\n",\*a,\*b);

}

#### //Explanation

Swaping two numbers is simple and a fundamental thing.I have just used three steps for swapping two numbers-

1.copy the value of first number say a to some temporary variable say t.

2.copy the value of second number say b to the first number.which is a=b.I have used \* sign for mention the value of the two numbers.

3.copy back the value of first number stored t to second number.which is b=t.

#### //Task 03 string equal or not

#include<stdio.h>

#define max\_size 100

int main ()

{

char str1[max\_size],str2[max\_size];

int length1=0,temp1,length2=0,temp2;

int i;

printf("Enter first string:");

gets(str1);

for(i=0;str1[i]!=0;i++)

{

length1++;

}

temp1=length1;

printf("Enter second string:");

gets(str2);

for(i=0;str2[i]!=0;i++)

{

length2++;

}

temp2=length2;

if(temp1==temp2)

printf("Both the string are equal\n");

else

printf("Both the string are not equal\n");

return 0;

}

#### //Explanation

This is a string related problem.In this problem user give two string as input.If the first string length is the same of the second string then the output will be equal.If it is not happen then the output will be not equal.In this problem I have done few things

1.First of all I have found the length of the first string

2.Then I have found the length of the second string

3.If two string length is same it will be equal otherwise it will be not equal.

#### //Task 04 swap two numbers without third variable

#include<stdio.h>

#include<conio.h>

void swap(int \*x,int \*y)

{

\*x=(\*x)+(\*y);

\*y=(\*x)-(\*y);

\*x=(\*x)-(\*y);

}

void main ()

{

int x,y;

printf("Enter two number to swapped:");

scanf("%d%d",&x,&y);

swap(&x,&y);

printf("The value of x after swap is:%d\n",x);

printf("The value of y after swap is:%d\n",y);

}

#### //Explanation

Swapping two number is very easy problem when we use the third variable.But without third tepm variabke It is not an easy task.on this problem I have used a simple but critical logic.

1.I have assigned on first number sum of the 1St and 2nd number

2.Then I have also assigned on second number subtract of x and y.

3.At the end,I have again assigned on first number subtract of x and y.

#### //Task 05 pattern

#include<stdio.h>

int main ()

{

int i,j,k;

int n;

printf("Enter the input:");

scanf("%d",&n);

for(i=0;i<=n;i++)

{

for(j=0;j<=n-i;j++)

{

printf(" ");

}

for(k=0;k<=i;k++)

{

printf("\* ");

}

printf("\n");

}

for(i=n;i>=0;i--)

{

for(j=0;j<=n-i;j++)

{

printf(" ");

}

for(k=0;k<=i;k++)

{

printf("\* ");

}

printf("\n");

}

return 0;

#### }

#### //Explanation

This is a pattern related problem.To solve this problem I have used six loops.Let explain why I have used this

1.on the diamond shape,first half shape It is increasing.so first three loops it is increment

2.on the second three loops I have used these fo decrementing the diamond pattern shape

It was very interesting problem but very tricky.I have spent loats of time for solving this problem.when I had got the output I would become very happy.