Institute of Computer Technology
B. Tech. Computer Science and Engineering

Sub: ESFP – I
Course Code: 2CSE102

Practical – 5

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Q.1.Problem Definition:

Make a program to obtain length (L) and breadth (B) of a rectangle and check whether its area is greater, or perimeter is greater, or both are equal.

Input Format:

• First line will contain the length (L) of the rectangle.
• Second line will contain the breadth (B) of the rectangle.

Output Format:

In the first line print "Area" if area is greater otherwise print "Peri" and if they are equal print "Equal".(Without quotes). In the second line print the calculated area or perimeter (whichever is greater or anyone if it is equal).

Solution:

Code:-

```
#include <stdio.h>

void main()
{

    int l;       int b;
  //l=length   //b=breadth

   float a;      float p;
  //a=area      //p=perimeter

  printf("Enter the value of length and breadth:\n");
  scanf("%d %d",&l,&b);

   a=l*b;                  p=2*(l+b);
   //formula of area     //formula of perimeter

   a==p?printf("Equal\n%f
%f",a,p):a>p?printf("Area\n%f",a):printf("Peri\n%f",p);

}
```

```
Enter the value of length and breadth:
2 3
Peri
10.000000

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of length and breadth:
5 5
Area
25.000000

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of length and breadth:
0 0
Equal
0.000000 0.000000

...Program finished with exit code 0
Press ENTER to exit console.
```

Q.2.Problem Definition:

Mr. Malhotra has just started Programming; he is in first year of Engineering. Malhotra is reading about Relational Operators.

Relational Operators are operators which check the relationship between two values. Given two numerical values A and B you need to help Malhotra in finding the relationship between them, that is, first one is greater than second or, first one is less than second or, First and second one is equal.

Solution:

Code:-

```
#include <stdio.h>

void main()
{

  int A;  int B;
  //this is initialize int A and B for input value

  printf("enter the value of A and B:\n");
  scanf("%d %d",&A,&B);
```

```
  A==B?printf("="):A<B?printf("<"):printf(">");

}
```

```
enter the value of A and B:
34 54
<

...Program finished with exit code 0
Press ENTER to exit console.
```

```
enter the value of A and B:
-23 -45
>

...Program finished with exit code 0
Press ENTER to exit console.
```

```
enter the value of A and B:
10 10
=

...Program finished with exit code 0
Press ENTER to exit console.
```

Q.3. Problem Definition:

Pooja would like to withdraw Rs. X from an ATM. The cash machine will only accept the transaction if X is a multiple of 5, and Pooja's account balance has enough cash. to perform the withdrawal transaction (including bank charges). For each successful withdrawal the bank charges Rs. 5. Calculate Pooja's account balance after an attempted transaction.

Solution:

Code:-

```
#include <stdio.h>
void main()
{

    int W;              double B;
    //W=withdraw_amount     //B=account_balance

    printf("Enter the value of withdraw_amount and
account_balance:-\n");
    scanf("%d %lf",&W,&B);

    W>B?printf("%lf - Insufficient
Funds",B):W%5==0?printf("%lf",B):printf("%lf - Incorrect Withdrawal
Amount (not multiple of 5)",B-W-0.5);

    /*
    Here I have used a double function because account_balance
might need 8-bytes(64-bits).
    and i have used int function for withdraw_amount because
"*%5==0" equation is applicable for only int function.
    */
}
```

```
Enter the value of withdraw_amount and account_balance:-
30 120
120.000000

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of withdraw_amount and account_balance:-
42 120
77.500000 - Incorrect Withdrawal Amount (not multiple of 5)

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of withdraw_amount and account_balance:-
120 50
50.000000 - Insufficient Funds

...Program finished with exit code 0
Press ENTER to exit console.
```

QUESTION 4:

Make a program to obtain a number N and increment its value by 1 if the number is divisible by 4,6 and 10 otherwise decrement its value by 1.

Solution:

Code:-

```
#include <stdio.h>

void main()
{

   int N;         int x;
   //input value   //output value

   printf("Enter the value of 'N':-\n");
   scanf("%d",&N);


0<=N&&N<=1000?((N%4==0)&&(N%6==0)&&(N%10==0))?printf("%d
",x=(++N)):printf("%d",x=(--N)):printf("Please Enter value 'N' from 0 to
1000");

}
```

```
Enter the value of 'N':-
240
241

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of 'N':-
35
34

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of 'N':-
1001
Please Enter value 'N' from 0 to 1000

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter the value of 'N':-
-1
Please Enter value 'N' from 0 to 1000

...Program finished with exit code 0
Press ENTER to exit console.
```