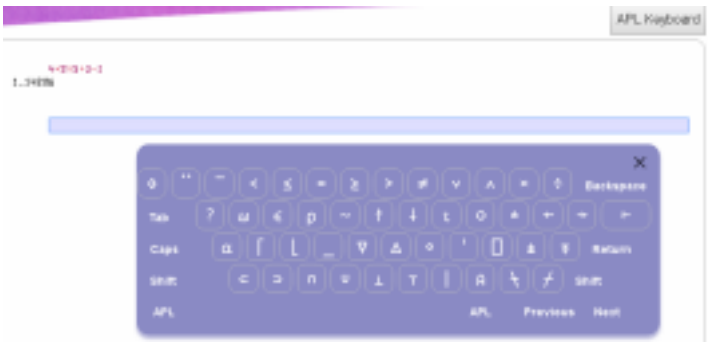
LAB EXERCISE – 6



1) APL programming language calculates the expressions from right to left sequentially. Calculate the expression below by using a C based programming language and by using APL (the compiler: http://tryapl.org/) Compare and explain the results. (multiplication sign is “x”, division sign is “÷” in APL, use APL keyboard, write the expression in the box as shown on the right side)

a) 10-3+5-2=? d) for x=3 and y=5

b) 4+2*5=?

$$k = xy + \frac{1}{5y} x^2$$

c) 2*5+4=?

2) Run the Java code below and explain why result1/result2 are different and why before/after f value are different regarding operand evaluation order.

```
public class GlobalMembers
{ public static int b = 4, f = 5;
        public static int fun1(int a)
        { a = 17;
                b = b + 2;
                return a;
        }
        public static int fun2()
        { f = f + 1;
                return f;
        }
        public static void main(String args[])
        { int a = 6, d = 12, temp;
                float result1, result2;

        result1 = (fun1(a) + b) / (fun1(a) - d);
        System.out.print("\n a=" + a + " b=" + b + " d=" + d);
        System.out.print(" result1= " + result1);

        temp = fun1(a);
        result2 = (temp + b) / (temp - d);
        System.out.print("\n a=" + a + " b=" + b + " d=" + d);
        System.out.print(" temp= " + temp + " result2= " + result2);

        System.out.print("\n before f = " + f);
        f = f + fun2();
        System.out.print("\n after f = " + f);
        }
}
```

3) Write a Phyton to compare these two divisions ;c=a//b and d=a/b. (// Integer division operator). Assign integer (like a=5 and b=3)and real values (like a=5.0 and b=3.0) to a and b and explain the division results.