# Assignment – 7 pseudocodes

1. *Problem 1 solution*

```
CLASS Occurences
BEGIN

    METHOD Main
    BEGIN

        CREATE array number [10]
        READ user_input for the values to be stored in array
        PRINT "Enter 10 integers to be stored in array"

        FOR(i←0; i<number.length; i←i+1)
            number[i] ←user_input
        ENDFOR
        Count(number)
    END Main

    METHOD Count (num)
    BEGIN

        Arrays.sort (num)
        count←1
        FOR (i←0; i<num.length; i←i+1)
            IF (i<num.length-1)
                IF (num[i] == num[i+1])
                    count←count+1
                ELSE
                    PRINT num[i]+ " occurred "+count+ " times."
```

```
                count←1
            ENDIF
        ENDIF
        IF (i==num.length-1)
            PRINT num[i]+“ occurred ”+count+“ times.”
        ENDIF
    END FOR
  END Count

END Occurrence
```

2. *Problem 2 solution*

```
CLASS IndexOfLargest
BEGIN

    METHOD Main
    BEGIN

        CREATE array array[10]
         READ user_input for the values to be stored in the array
         PRNIT “Enter 10 integers”
         FOR (i←0; i<array.length; i←i+1)
            array[i]←user_input
        END FOR
        PRINTLINE( )
        PRINT “Entered Numbers”
        FOR (i←0; i<array.length; i←i+1)
            IF(i<array.length)
              PRINT array[i]+ “, ”
            ELSE
              PRINT array[i]
```

```
            ENDIF
          ENDFOR
        PRINTLINE( )
        index←findIndex(array)
        PRINT "Index of the largest value: "+index
    END Main

    METHOD findIndex (arr)
    BEGIN

        max←0
        index←0
        FOR (i←0; i<arr.length; i←i+1)
            IF (arr[i]>max) THEN
                max←arr[i]
                index←i
            ENDIF
        END FOR
        RETURN index
    END findIndex

END IndexOfLargest
```

3. *Problem 3 solution*

```
CLASS DistinctValues
BEGIN

    METHOD Main
    BEGIN

        CREATE array number[10]
```

```
    READ user_input for the values to be stored in the array
    PRINT “Enter 10 integers”
    FOR (i←0; i<number.length: i←i+1)
        number[i]←user_input
    END FOR
    PRINT “Original array: ”
     FOR (i←0; i<number.length; i←i+1)
        PRINT number[i]+“ ”
     END FOR
     PRINTLNE( )
     getValues(number)
  END MAIN

  METHOD getValues (num)
  BEGIN

        PRINT “Distinct array: ”
        FOR (i←0; i<num.length; i←i+1)
            isDistinct←true
          FOR (j←0; j<i; j←i+1)
            IF (num[i] == num[j]) THEN
                isDistinct←false
                BREAK
            ENDIF
          END FOR

          IF (isDistinct == true)
            PRINT num[i]+“ ”
          ENDIF
       END FOR
    END getValues( )
END DistinctValues
```

4. *Problem 4 solution*

```
CLASS MinMaxAvg
BEGIN

    METHOD Main
    BEGIN

      CREATE array Grades[4][4]
      READ random_value to store in array
          FOR (i←0; i<4; i←i+1)
            FOR(j←0; j<4; j←j+1)
               Grades[i][j]←random_value
            END FOR
          END FOR
      PRINT “Array Grades:”
      PRINT “     ”
          FOR (i←0; i<4; i++)
            FOR (j←0; j<4; j++)
               PRINT Grades[i][j]+“ ”
            END FOR
          END FOR
    PRINTLNE( )
    minMaxAvg (Grades)
END Main

METHOD minMaxAvg(int[][] grades)
BEGIN

      min←100
      max←0
      total←0
```

```
        CREATE avg
           FOR (i←0; i<4; i←i+1)
             FOR (j←0;j<4; j←j+1)
                 IF (grades[i][j]>max) THEN
                       max←grades[i][j]
                 ENDIF
                 IF (grades[i][j]<min) THEN
                      Min←grades[i][j]
                 ENDIF
                total←total+grades[i][j]
            END FOR
         END FOR
        avg←total/16
        PRINT "Highest Grade: "+max
        PRINT "Lowest Grade: "+min
        PRINT "Average Grage: "+avg
      END minMaxAvg( )
    END MinMaxAvg
```

5. *Problem 5 solution*

```
CLASS WeeklyHours
BEGIN

    METHOD Main
    BEGIN

        CREATE array Hours[3][7]
        READ random_value to store in the array
          FOR (i←0; i<3; i←i+1)
            FOR (j←0; j<7; j←j+1)
                Hours[i][j]←random_value
```

```
        END FOR
      END FOR
    PRINT “Employees Data: ”
    PRINTLNE( )
    PRINT “                Mon  Tue  Wed  Thu  Fri  Sat  Sun”
    PRINTLINE( )

    PRINT “Employee1  ”
    FOR (l←0; l<7; l←l+1)
        PRINT Hours[0][l]+“    ”
    END FOR
    PRINTLINE( )

    PRINT “Employee2  ”
    FOR (l←0; l<7; l←l+1)
       PRINT Hours[1][l]+ “    ”
    END FOR
    PRINTLINE( )

    PRINT “Employee3  ”
    FOR (l←0; l<7; l←l+1)
      PRINT Hours[2][l]+ “    ”
    END FOR
    PRINTLINE( )
    PRINTLINE( )
    addHours(Hours)
END Main

METHOD addHours (hours)
BEGIN

   PRINT “Employee     Weekly Hours”
```

```
        add1←0
        add2←0
        add3←0
        FOR (i←0; i<7; i←i+1)
            add1←add1+hours[0][i]
        END FOR
        PRINT “   1           ”+add1

        FOR (i←0; i<7; i←i+1)
            add2←add2+hours[1][i]
        END FOR
        PRINT “    2           ”+add2

        FOR (i←0; i<7; i←i+1)
            add3←add3+hours[2][i]
        END FOR
        PRINT “   3           ”+add3
    END addHours( )
END WeeklyHours
```