

Assignment – 8 pseudocodes

1. Problem 1 solution

CLASS Occurences

BEGIN

METHOD Main

BEGIN

CREATE array arr1[3][3]

CREATE array arr2[3][3]

READ user_input for the values to be stored in array

PRINT “Enter 9 integers to be stored in first array”

FOR($i \leftarrow 0$; $i < 3$; $i \leftarrow i + 1$)

FOR($j \leftarrow 0$; $j < 3$; $j \leftarrow j + 1$)

arr1[i][j] \leftarrow user_input

ENDFOR

ENDFOR

PRINTLINE()

PRINT “Enter 9 integers to be stored in second array”

FOR($i \leftarrow 0$; $i < 3$; $i \leftarrow i + 1$)

FOR($j \leftarrow 0$; $j < 3$; $j \leftarrow j + 1$)

arr2[i][j] \leftarrow user_input

ENDFOR

ENDFOR

PRINT “Array A:”

PRINTLINE()

FOR($i \leftarrow 0$; $i < 3$; $i \leftarrow i + 1$)

```

        FOR(j<--0;j<3;j←j+1)
            PRINT " " + arr1[i][j]
        ENDFOR
        PRINTLINE( )
    ENDFOR
    PRINTLINE( )
    PRINT "Array B:"
    FOR(i←0;i<3;i←i+1)
        FOR(j<--0;j<3;j←j+1)
            PRINT " " + arr2[i][j]
        ENDFOR
        PRINTLINE( )
    ENDFOR
    PRINTLINE( )
    IF(isEquivalent(arr1,arr2)==true)THEN
        PRINT "Judgment: The arrays are equivalent"
    ELSE
        PRINT "Judgment: The arrays are not equivalent"
    ENDIF
END Main

```

```

METHOD isEquivalent(arr1,arr2)
BEGIN

```

```

    FOR (i←0; i<2; i←i+1)
        FOR(j←i+1;j<3;j←j+1)
            IF (arr1[i][j]<arr1[i][j-1])THEN
                temp←arr1[i][j]
                arr1[i][j]←arr1[i][j-1]
                arr1[i][j-1]=temp
            ENDIF

```

```

        ENDFOR
    ENDFOR

    FOR (i ← 0; i < 2; i ← i + 1)
        FOR(j ← i + 1; j < 3; j ← j + 1)
            IF (arr2[i][j] < arr2[i][j - 1]) THEN
                temp ← arr2[i][j]
                arr2[i][j] ← arr2[i][j - 1]
                arr2[i][j - 1] = temp
            ENDIF
        ENDFOR
    ENDFOR

    a ← false
    FOR(j ← 0; j < 3; j ← j + 1)
        FOR(j ← 0; j < 3; j ← j + 1)
            IF(arr1[i][j] == arr2[i][j]) THEN
                a ← true
            ELSE
                a ← false
            ENDIF
        ENDFOR
    ENDFOR
    RETURN a
END isEquivalent

END Occurrence

```

2. Problem 2 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: ”
    PRINTLINE( )
    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
```

```
    CREATE array a[7]
    CREATE array b[7]
    CREATE array c[7]
    CREATE array days[7]
    days ← {“Monday”, “Tuesday”, “Wednesday”, “Thursday”,
    “Friday”, “Saturday”, “Sunday”}
    add1 ← 0
    add2 ← 0
    add3 ← 0
    FOR (i ← 0; i < 7; i ← i + 1)
        [i] ← hours[0][i];
        add1 ← add1 + hours[0][i]
    END FOR

    FOR (i ← 0; i < 7; i ← i + 1)
        b[i] ← hours[1][i]
        add2 ← add2 + hours[1][i]
    END FOR

    FOR (i ← 0; i < 7; i ← i + 1)
        c[i] ← hours[2][i]
        add3 ← add3 + hours[2][i]
    END FOR
    CREATE array sum[3]
    sum[0] ← add1
```

```
sum[1] ← add2  
sum[2] ← add3
```

```
max1 ← a[0]  
max2 ← b[0]  
max3 ← c[0]
```

```
index1 ← 0  
index2 ← 0  
index3 ← 0
```

```
FOR(i ← 0; i < a.length; i ← i + 1)  
  IF(a[i] > max1) THEN  
    max1 ← a[i]  
    index1 ← i  
  ENDIF  
ENDFOR
```

```
FOR(i ← 0; i < b.length; i ← i + 1)  
  IF(b[i] > max2) THEN  
    max ← b[i]  
    index2 ← i  
  ENDIF  
ENDFOR
```

```
FOR(i ← 0; i < c.length; i ← i + 1)  
  IF(c[i] > max3) THEN  
    max3 ← [i]  
    index3 ← i  
  ENDIF  
ENDFOR
```

```
PRINT "Employee1 worked the most hours on "+days[index1]
PRINT "Employee2 worked the most hours on "+days[index2]
PRINT "Employee3 worked the most hours on "+days[index3]
PRINTLINE( )
```

```
PRINT "Employee#    Weekly Hours"
```

```
FOR(i←0;i<2;i←i+1)
```

```
    FOR(j←1;j<3;j←j+1)
```

```
        IF(sum[i]>sum[j])THEN
```

```
            temp←sum[j]
```

```
            sum[j]←sum[i]
```

```
            sum[i]←temp
```

```
        ENDIF
```

```
    ENDFOR
```

```
ENDFOR
```

```
IF(sum[0]==add1)THEN
```

```
    PRINT "    1    "+sum[0]
```

```
ELSE IF(sum[0]==add2)
```

```
    PRINT "    2    "+sum[0]
```

```
ELSE
```

```
    PRINT "    3    "+sum[0]
```

```
ENDIF
```

```
IF(sum[1]==add3)THEN
```

```
    PRINT "    3    "+sum[1]
```

```
ELSE IF(sum[0]==add2)
```

```
        PRINT "    2    "+sum[1]
ELSE
        PRINT "    1    "+sum[1]
ENDIF
```

```
IF(sum[2]==add2)THEN
        PRINT "    2    "+sum[2]
ELSE IF(sum[2]==add1)
        PRINT "    1    "+sum[2]
ELSE
        PRINT "    3    "+sum[0]
ENDIF
```

```
END addHours( )
END WeeklyHours
```