

國立勤益科技大學九十八學年度研究所碩士班招生筆試試題卷
所別： 電子工程系碩士班 組別： 資訊科技組, 多媒體遊戲機組
科目： 計算機程式
准考證號碼： (考生自填)

考生注意事項：

- 一、考試時間 100 分鐘。
- 二、可用 C 或 Java 語言作答
- 三、

試題一：〈 20 分〉

Using nest-loop to print the triangle pattern as Fig. 1

```
C C C C C C C
  H H H H H H
    I I I I I
      N N N N
        Y Y Y
          I I
            U
```

Fig. 1

試題二：〈 20 分〉

Write a calculator function to do the "+, -, ×, ÷" operations. The 2 numbers (operand1=90, operand2=20) will be transmitted by main program for calculation and the result will be returned to the main program. The main program will print out the result. Main program will call the calculator function 4 times. Each time operates one of the four mathematic operations.

試題三：〈 20 分〉

Write a program to sort a given array `ary[] = {3,24,62,16,13,29}` by a sorting function. Main program will pass the array to the sorting function and print out the sorted results after the sorting function pass back the sorted array.

試題四：〈 20 分〉

There is a small 2x2 array template(模板) as Fig. 3. Based on Fig.3 (template) to write a program to find the upper left coordinate of the matching area in the 4x4 target array as Fig. 2.

```
3 3 3 3
3 2 3 2
3 3 4 5
3 4 5 3
```

Fig. 2

```
3 2
4 5
```

Fig. 3

試題五：〈 20 分〉

Assume three employees' personal information as following {name; salary; taxrate}: {John; 800,000; 13%}, {Mary; 1,200,000; 13%}, {Steve; 1,300,000; 13%}. Define a class including name, salary, taxrate and a tax function to calculate the tax. Main program creates these three employees' objects and prints out the tax of each employee.