

# Question a

- Print a  $n*n$  multiplication table
- Input :
  - 3
- Output :
  - 3\*3 multiplication table

```
Please enter the number of multiplication table you want : 3
1      2      3
2      4      6
3        6      9
```



you may use \t

# Question b

- Print the same result as you input.
- Input (There will be only char, you don't have to consider int) :
  - I love computer science!
- Output :
  - I love computer science!

```
Please enter the string you want to print : I love computer science!  
I love computer science!
```

- Hint : Everything you need is in this powerpoint!

# Question c

- Transform a decimal into
  - (i) Binary
  - (ii) Octal
  - (iii) Hexadecimaland return when the input is 0

- Input :

- 11

- Output :

- 1011
  - 13
  - b

```
Please enter a decimal integer : 11
1011
13
b
Please enter a decimal integer : 0
```

# Question d

- Sort the numbers you entered, and return when the input is 0

- Input :

- 3
- 8
- 4
- 5

- Output :

- 4 5 8

```
Please enter the number of elements : 3
The 1 element is : 8
The 2 element is : 4
The 3 element is : 5
4 5 8
Please enter the number of elements : 0
```

- Hint : You can google any sort method, the best way to do is merge sort or quick sort. If you think the code is too difficult, you can try bubble sort or selection sort.

# Question e

- Find the prime number within  $2 \sim n$ , and print all of them. Return when the input is 0

- Input n :

- 10

- Output :

- 2 3 5 7

```
Please enter the final num : 10
```

```
2 3 5 7
```

```
Please enter the final num : 0
```

- Hint : Find prime numbers by using CD (因數)

# Question f (Bonus)

- First, enter the number of test cases. And then enter the length of four lines in a quadrangle. Finally, determines if it is a

(i) square      (ii) rectangle      (iii) quadrangle      (iv) nothing

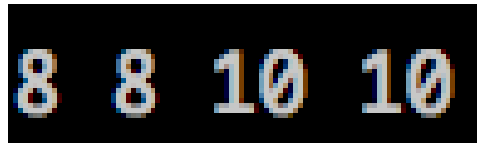
- Input and output:

- 4
- 8 8 10 10 → output : rectangle
- 60 1 2 3 → output : nothing
- 4 3 1 2 → output : quadrangle
- 1 1 1 1 → output : square

```
4
8 8 10 10
rectangle
60 1 2 3
nothing
4 3 1 2
quadrangle
1 1 1 1
square
```

# Hint for Question f

- It will be easier to use array
- It is possible to set values for  $v[0] \sim v[3]$  by a single line while you are executing your program.



$v[0]$   $v[1]$   $v[2]$   $v[3]$

- The program is shown here

```
for (i = 0; i < 4; i++)  
    scanf("%d", v+i);
```