

## C/C++ Programming in UNIX

### Lab 02

1. Write a program to calculate the squares and cubes of the numbers from 0 to 10. Use tabs to print the following table of values:

Number	Square	Cube
0	0	0
1	1	1
2	4	8
3	9	27
4	16	64
5	25	125
6	36	216
7	49	343
8	64	512
9	81	729
10	100	1000

2. We need the amount of money of 30,000VND by selecting the appropriate number of 1,000VND; 2,000VND; 5,000VND; 10,000VND notes. Write a program to calculate all possibilities

Example: 10 notes of 1,000VND + 2 notes of 5,000VND + 1 note of 10,000 VND

3. Write a program to input 2 integers and an operator (+ - \* /) then calculate the result of the expression. Note: use character type for operator, to input one character, use the function `getchar()` or `scanf` as shown below

```
char operator;  
  
int num1, num2;  
  
scanf ("%d%c%d", &num1, &operator, &num2);
```

Example: input 1+2 → result = 1 + 2 = 3. Note there is no space between number and operator in the sample code above

4. Write a program to read an integer number and check whether it is Perfect Number or not.  
Perfect number is an integer which sum of all its divisors equal to the number itself  
Example: 6 is the perfect number since 1 + 2 + 3 = 6

5. Input an integer N and draw the following shape. Example N = 5

```
1
22
333
4444
55555
```

6. (optional) Input an integer N and draw the following shape. Example N = 5

```
    1
  22
333
4444
55555
```