

1. Assume a vegetable shop has 5 items to be sold. You buy a certain quantity of each of them. Calculate and print your bill. Use the functions Setwidth and SetPrecision in the library iomanip to adjust the spacing in the bill.
2. Using 'Switch', write a program to display the grades A, B, C, D, E, F and S, according to the marks obtained.
3. Write a program that works as a calculator for the operations of add, subtract, multiply and divide (Note: How many operands will you specify?)
4. Using nested (one inside the other) 'for' loops, print a 3 x3 matrix with data entered through the key board.
5. Print the following using a for loop

```
*
**
***
****
*****
*****
```

11 Print the calendar for the month of August 2014 using any control structure.

12. Take a 6-digit number. Write a program to print it reversed. Also display the sum of its digits.

Set 2

1. Write a program to find the sum of the following series where the user will enter the number of elements in the series.

$$\text{sum} = x + \frac{x^3}{2!} - \frac{x^5}{4!} + \dots \frac{x^n}{(n-1)!}$$

2. Write a program to print the following pattern. x+1

```
      x2+1  x2+2
      x3+1  x3+2  x3+3
x4+1  x4+2  x4+3  x4+4  x5+1
      x5+2  x5+3  x5+4  x5+5
```

3. Write a program to print the following pattern.

```
0
101
21012
```

3210123
432101234
54321012345

4. Write a program to take three 6 digit numbers as input from the user. Both the numbers have to be modified in the decreasing order of digits and find the largest of 3 modified numbers.
(For example, if the user enters a 3-digit number 318, its modified number is 831).

5. Write a program to print the following pattern of Fibonacci series numbers of n numbers.

Number (n)	Factorial (n!)
1	1
1	1
2	2
3	6
5	120
8	40320

6. Write a program to find the number of occurrence of vowels and non-alphabetic characters in a sentence entered by the user. Also the find the first occurrence of vowel.
7. Write a program to remove the consecutive repeated characters from a string entered by the user. Also count the number of characters in the string before and after processing.