Compilers Assignment 9

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(1)

```
        *
       / \
      a   −
          |
          +
         / \
        b   c
```

$$abc + - *$$
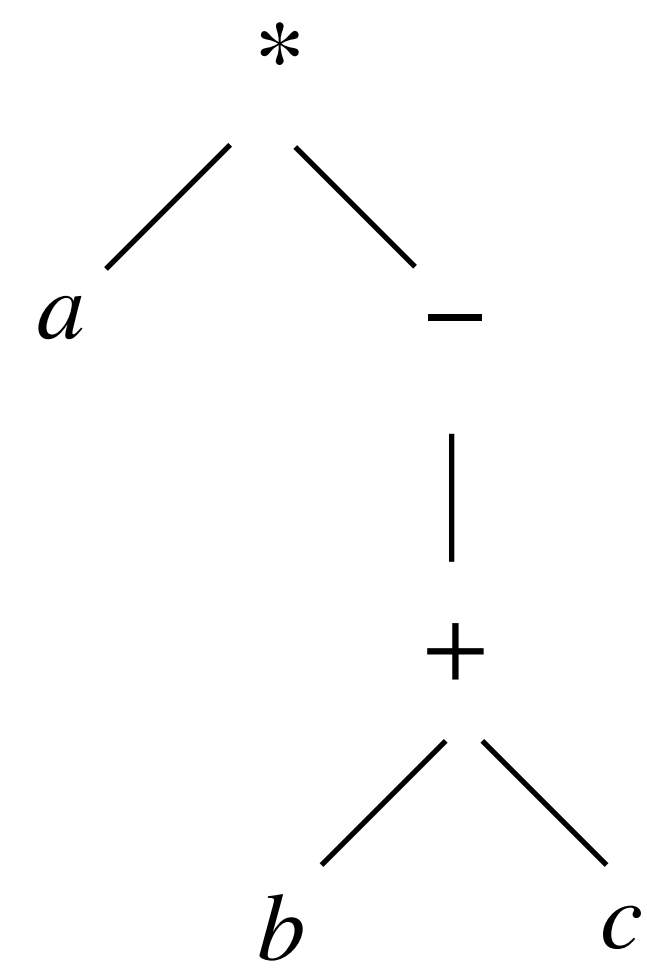
$$t_1 = b + c$$

$$t_2 = - \, t_1$$

$$t_3 = a * t_2$$

语法树   后缀式   三地址代码

(2)

$$T \Rightarrow aDa \qquad\qquad \{print'1'\}$$

$$\Rightarrow a(Aa \qquad\qquad \{print'2'\}$$

$$\Rightarrow a(Dd)a \qquad\qquad \{print'4'\}$$

$$\Rightarrow a((Ad)a \qquad\qquad \{print'2'\}$$

$$\Rightarrow a((Dd)d)a \qquad\qquad \{print'4'\}$$

$$\Rightarrow a(((Ad)d)a \qquad\qquad \{print'2'\}$$

$$\Rightarrow a(((Dd)d)d)a \qquad\qquad \{print'4'\}$$

$$\Rightarrow a(((dd)d)d)a \qquad\qquad \{print'3'\}$$

So the output string of top-down parsing is 12424243.