

Lab03-Set, Relation, and Function

计算机科学导论课后习题，讲师：高晓飒，2016 秋季学期

标注您的 姓名：__徐逸凡__ 学号：__516071910074__ 班级：__F1607103__
* 电子版作业请直接上传到课程网站

1. 请设计算法，求 $1 + 2 + \dots + 100$ 的和。写出伪代码，并用VISIO绘出对应的流程图。

Solution.

Algorithm 1: 从1到100求和

Output: The sum from 1 to 100

```
1 temp = 1;
2 sum = 0;
3 while temp ≤ 100 do
4   | sum = sum + temp;
5   | temp = temp + 1;
6 end
7 output sum;
```

□

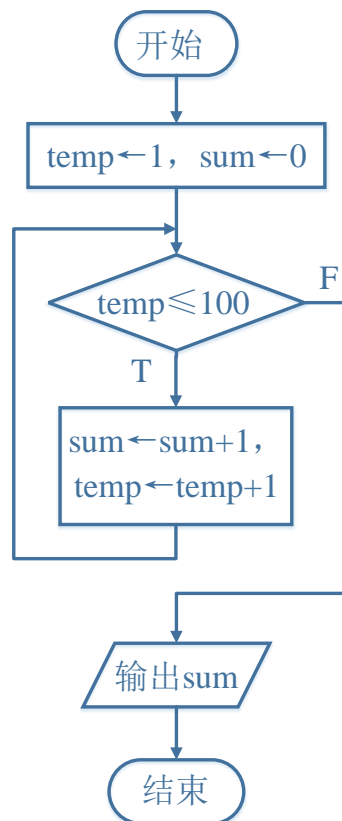


Figure 1: 第一题流程图

2. 设全集 $U = \{1, 2, 3, 4, 5, 6\}$ ，集合 $A = \{1, 3, 4\}$ ， $B = \{1, 2, 5\}$ ， $C = \{2, 4, 6\}$ ，求下列集合：

- (a) $(A \cap B) \cup \bar{C}$,
(b) $(A - B) \cap C$,

(c) $A \oplus B \oplus C$.

Solution.

(a) $(A \cap B) \cup \bar{C} = \{1, 3, 5\}$,

(b) $(A - B) \cap C = \{4\}$,

(c) $A \oplus B \oplus C = \{3, 5, 6\}$.

□

3. 设全集 $U = \{1, 2, 3, 4, 5, 6, 7, 8\}$, 集合 $A = \{1, 2, 3, 5\}$, $B = \{2, 3, 4, 6\}$, $C = \{1, 3, 6, 7\}$, 请用韦恩图表示下列集合:

(a) $(A \cap B) \cap \bar{C}$,

(b) $(A - B) \cup C$.

Solution.

(a) $(A \cap B) \cap \bar{C} = \{2\}$,

(b) $(A - B) \cup C = \{1, 3, 5, 6, 7\}$.

□

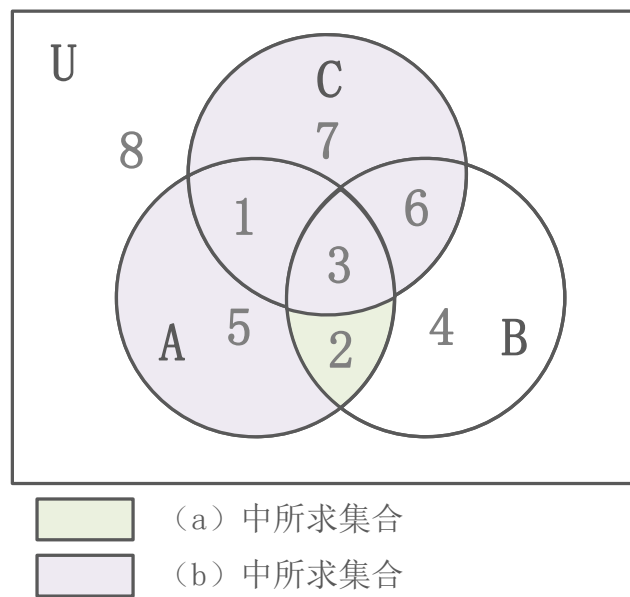


Figure 2: 韦恩图