1. VARIABLES, TYPES, I/O

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Overview

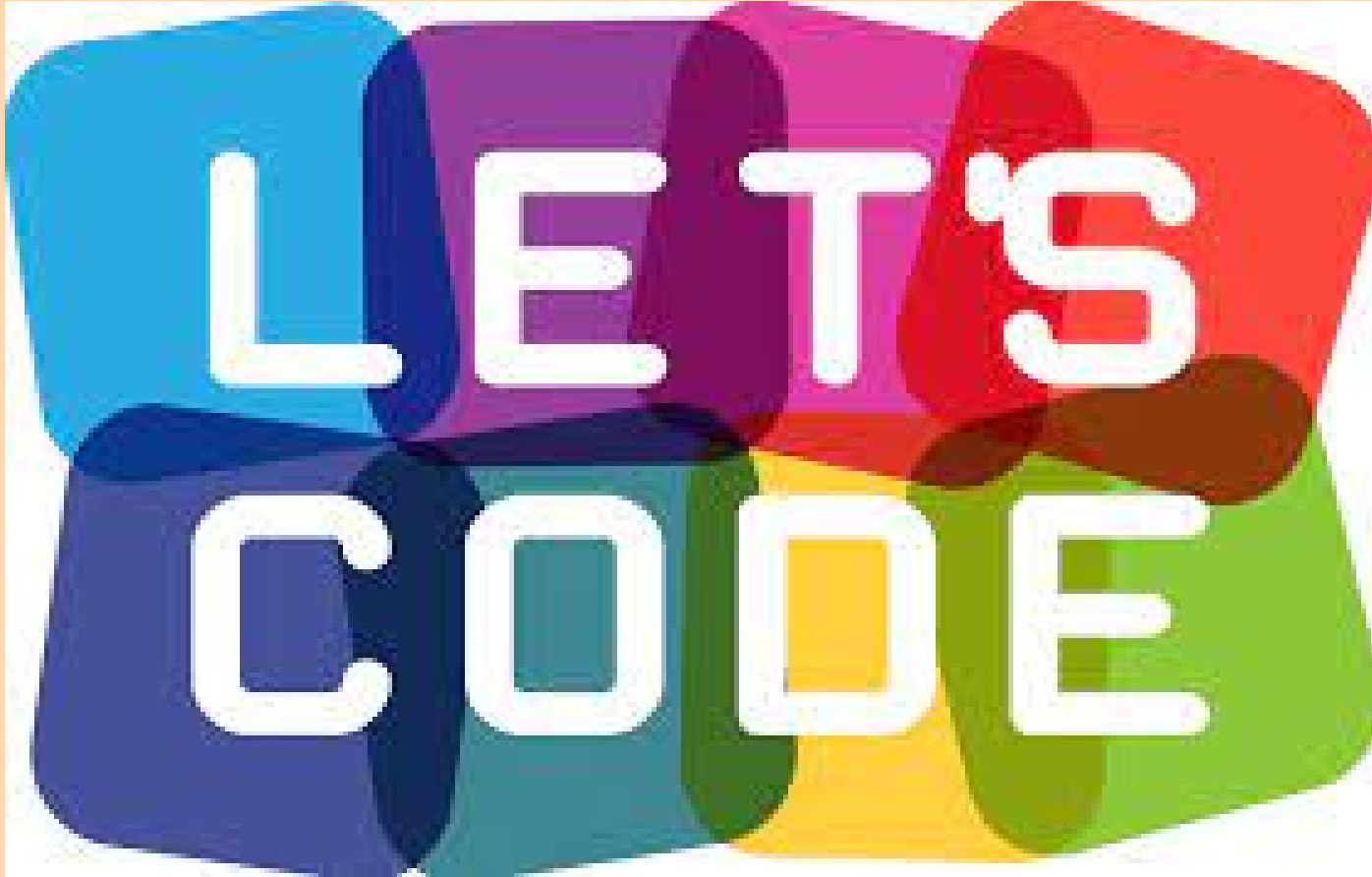**Program** = **Input** + **Data** + **Operations** + **Output**

Overview

Variables (变量)   Constants (常量)

Data Types (类型)

Operators (运算符)   Expressions (表达式)

Assignment Statements (赋值语句)

I/O (Input/Output; 输入输出)

circle.c   sphere.c   mol.c   admin.c

Circle

Given a **radius** (say 10) of a circle,
to compute its **circumference** and **area**.

$$L = 2\pi r \qquad S = \pi r^2$$

- 每个结果各占一行
- 小数点后保留两位

Declaration (声明)

```
int radius = 10;
```

- Introduce a *variable* called `radius`.
- You can use `radius` later.
- The type of `radius` is `int` (integer).
- `radius` is initialized to 10.
- You can assign (赋值) other integers to `radius`.
- `radis` refers to a *location* (`&radius`) in memory.

6

Definition (定义)

```
int radius = 10;
```

This is also a *definition*.

All definitions are declarations.

~~All declarations are definitions~~ (at least for now).