**Circle**

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

* **每个结果各占一行**
* **小数点后保留两位**

/\*  
 \* circle.c(计算周长）  
 \*/  
  
#include <stdio.h>  
  
int main(void) {  
 int radius = 10;  
 // &radius: address-of  
 // radius = 20;  
 double circumference = 2 \* 3.14159 \* radius;  
 double area = 3.14159 \* radius \* radius;  
  
 // .2: precision 小数点后保留几位  
 printf("circumference = %.2f\narea = %.2f\n", circumference, area);  
 return 0;  
}

**Sphere**

**Given a radius (say ) of a sphere, to compute its surface area and volume.**

* **每个结果占  行**
* **小数点后保留  位**
* **每个结果至少占  字符, 左对齐**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : surface\_area**
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : volume**

/\*  
 \* sphere.c(球的体积和面积)  
\*/  
  
#include <stdio.h>  
  
int main() {  
 int radius = 100;  
  
 double surface\_area = 4 \* 3.14159 \* radius \* radius;  
 double volume = 4.0 / 3 \* 3.314159 \* radius \* radius \* radius;  
  
 // 15: width  
 printf("%-15.4f : surface\_area\n%-15.4f : volume\n",  
 surface\_area, volume);  
}

**mol**

**6克氧气的分子数是多少?**

**两种格式输出, 结果均使用科学计数法表示**

* **第一行结果, 小数点后保留  位**
* **第二行结果, 保留  位有效数字**

/\*  
 \* mol.c(6克氧气的分子数)  
 \*/  
#include <stdio.h>  
  
int main(void) {  
 const double MOL = 6.02E23;  
 const int GRAM\_PER\_MOL = 32;  
 int mass = 6;  
  
 double quantity = mass \* 1.0 /GRAM\_PER\_MOL \* MOL;  
  
 printf("quantity = %.3e\nquantity = %.5g\n", quantity, quantity);  
 return 0;  
}

**大学信息管理系统**

* **Name (EN)**
* **Address**
* **Type (F/M)**
* **Birthday (mm-dd-yyyy)**
* **education score**
* **reseach score**
* **impact score**
* **Mean (.d)**
* **Standard Deviation (.dd)**
* **Ranking ()**

//  
// admin 搞笑信息管理系统  
//  
#include <stdio.h>  
#include <math.h>  
#include <ctype.h>  
  
int main(void)  
{  
 char name[] = "Nanjing University";  
 char address[] = "Nanjing";  
  
 char type = 'C'; // 大学类型 C: comprehensive; T: technology; A: arts  
 int birth\_year = 1902;  
 int birth\_month = 5;  
 int birth\_day = 20;  
 char weekday[] = "Tuesday";  
  
 int edu\_score = 99; // 教学质量  
 int research\_score = 98; // 研究声誉  
 int impact\_score = 93; // 影响力  
  
 double mean = (edu\_score + research\_score + impact\_score) / 3.0;  
 double sd = sqrt(pow(edu\_score - mean, 2) + pow(research\_score - mean, 2) + pow(impact\_score - mean, 2));  
  
 int rank = 5;  
 printf("%s \t %s \t %c \n"  
 "%.2d-%d-%d \t\t\t %.3s.\n"  
 "%d \t\t\t\t\t %d \t\t %d\n"  
 "%.1f \t\t\t\t %.2f \t\t %d%%\n",  
 name, address, toupper(type),  
 birth\_month, birth\_day, birth\_year, weekday,  
 edu\_score, research\_score, impact\_score,  
 mean, sd, rank);  
  
 return 0;  
}