

1. 下面代码有什么错误?

```
if radius >= 0
{
    area = radius * radius * PI;
    cout << "area for radius " << radius << " is " << area;
}
```

2. 假设 x 的值为 1, 给出下列表达式的结果:

```
(true) && (3 > 4)
!(x > 0) && (x > 0)
(x >=0) || (x < 0 )
(x != 1) == !(x == 1)
```

3. 假设 x 的值为 1, 下列语句执行后, x 的值是多少?

```
(x > 1) && (x++ >1 )
```

4. 给出下面程序的输出结果。

```
#include <iostream>
using namespace std;
int main()
{
    char x = 'a';
    char y = 'c';

    cout << ++x << endl;
    cout << y++ << endl;
    cout << (x > y) << endl;
    cout << (x - y) << endl;

    return 0;
}
```

5. 假定 x=3, y=2, 给出下面程序的输出结果。如果 x=3, y=4, 则结果是什么, x=2, y=2 呢?

```
if ( x > 2 )
{
    if ( y>2 )
    {
        int z = x + y;
        cout << "z is " << z << endl;
    }
}
else
cout << "x is " << x << endl;
```

6. 下面哪些语句是等价的？哪些有正确的缩进？

```
if (i > 0) if
(j > 0)
x = 0; else
if (k > 0) y = 0;
else z = 0;
```

(a)

```
if (i > 0) {
    if (j > 0)
        x = 0;
    else if (k > 0)
        y = 0;
}
else
    z = 0;
```

(b)

```
if (i > 0)
    if (j > 0)
        x = 0;
    else if (k > 0)
        y = 0;
    else
        z = 0;
```

(c)

```
if (i > 0)
    if (j > 0)
        x = 0;
    else if (k > 0)
        y = 0;
else
    z = 0;
```

(d)

7. 假定  $x=2$ ,  $y=3$ , 给出下面程序的输出结果。当  $x=3$ ,  $y=2$  时, 结果又是什么?  $x=3$ ,  $y=3$  呢?

```
if (x > 2)
    if (y > 2)
    {
        int z = x + y;
        cout << "z is " << z << endl;
    }
else
    cout << "x is " << x << endl;
```

8. 下面两条语句是等价的吗?

```
if (income <= 10000)
    tax = income * 0.1;
else if (income <= 20000)
    tax = 1000 + (income - 10000) * 0.15;
```

```
if (income <= 10000)
    tax = income * 0.1;
else if (income > 10000 && income <= 20000)
    tax = 1000 + (income - 10000) * 0.15;
```

9. 下面的语句执行完毕后, y 的值是什么。

```
x = 3; y = 3;
switch (x + 3)
{
    case 6: y = 1;
    default: y += 1;
}
```

10. 将下面的语句改写为 switch 语句。

```
if (a == 1)
    x += 5;
else if (a == 2)
    x += 10;
else if (a == 3)
    x += 16;
else if (a == 4)
    x += 34;
```

11. 已有语句 `int a = 1; double d = 1.0;` 下面表达式相互独立, 计算各表达式的值:

```
a = (a = 3) + a;
a = a + (a = 3);
a += a + (a = 3);
a = 5 + 5 * 2 % a--;
d += 1.5 * 3 + (++d);
d -= 1.5 * 3 + d++;
```

12. 下面两条语句是等价的吗?

```
if (x <= 10)
    x = 2*x;
else if (x > 10 && x <= 20)
    x = x / 2;
else if (x > 20)
    x = x + 2;
```

```
if (x <= 10)
    x = 2*x;
if (x > 10 && x <= 20)
    x = x / 2;
if (x > 20)
    x = x + 2;
```

13. 下面的循环会执行几次循环体, 输出结果是什么?

```
int i = 1;
while (i > 10)
    if ( (i++) % 2 == 0)
        cout << i << endl;
```

```
int i = 1;
while (i < 10)
    if ( (i++) % 2 == 0)
        cout << i << endl;
```

14. 将下面的 for 循环转化为 while 循环和 do-while 循环。

```
long sum = 0;
for (int i = 0; i <= 1000; i++)
    sum = sum + i;
```

15. 关键字 `break` 和 `continue` 的作用分别是什么？下面的两个循环会结束吗？如果会，输出结果是什么？

```
int b = 1000;
while (true)
{
    if (b < 9)
        break;
    b = b - 9;
}
cout << "b=" << b << endl;
```

```
int b = 1000;
while (true)
{
    if (b < 9)
        continue;
    b = b - 9;
}
cout << "b=" << b << endl;
```

16. `while` 循环总是能转化为 `for` 循环吗？将下面的 `while` 循环转化为 `for` 循环。

```
int i = 1, sum = 0;
while (sum < 10000)
{
    sum = sum + i; i++;
}
```

17. 将左边的 `for` 循环转化为右边的 `while` 循环，有错误吗？如果有，怎么改正？

```
for (int i = 0; i < 4; i++)
{
    if (i % 3 == 0)
        continue;
    sum += i;
}
```

```
int i = 0;
while (i < 4)
{
    if (i % 3 == 0)
        continue;
    sum += i;
    i++;
}
```

18. 找出并修正下面代码中的错误（左边代码中的语法错误，右边代码中的逻辑错误）。

```
int = 8
for (int i = 0; i < 8; i++)
    sum += i;
if (i < j);
    cout << i
else
    cout << i;
while (j < 10)
{
    j++;
};
do
{
    j++;
} while (j < 10)
```

```
int total = 0, num = 0;
do
{
    cout << "Enter num: ";
    int num;
    cin >> num;
    total += num;
} while (num != 0);

cout << "total = " << total << endl;
```

19. 给出下面代码的输出结果。

```
for (int i = 1; i < 5; i++)
{
    int j = 0;
    while (j < i )
    {
        cout << j << " ";
        j++;
    }
}
```

```
int i = 0;
while (i < 5)
{
    for (int j = i; j > 1; j--)
        cout << j << " ";
    cout << "***** " << endl;
    i++;
}
```

```
int i = 5;
while (i >= 1)
{
    int num = 1;
    for (int j = 1; j <= i; j++)
    {
        cout << num << "xxx";
        num *= 2;
    }
    cout << endl;
    i--;
}
```

```
int i = 1;
do
{
    int num = 1;
    for (int j = 1; j <= i; j++)
    {
        cout << j << "G";
        num += 2;
    }
    cout << endl;
    i++;
} while (i <= 5);
```

20. 统计下面每个循环的循环次数？

```
int count = 0;
while (count < n)
{
    count ++;
}
```

```
for (int count =0; count < n;
count ++)
```

```
{
}
```

```
int count = 5;
while (count < n)
{
    count ++;
}
```

```
int count = 5;
while (count < n)
{
    count = count + 3;
}
```