

```
1 // Created by hfwei on 2022/10/6.
2 //
3
4 #include <stdio.h>
5 int main() {
6     int year = 0;
7     scanf("%d", &year);
8
9     int leap = 0;
10
11     // test: year = 25
12     // test: year = 80
13     // test: year = 100
14     // test: year = 400
15     if ((year % 4 == 0 && year % 100 != 0) ||
16         (year % 400 == 0)) {
17         leap = 1;
18     }
19
20 // if (leap == 0) {
21 //     printf("The year %d is a common year.\n", year);
22 // } else {
23 //     printf("The year %d is a leap year.\n", year);
24 // }
25
26 printf("The year %d is a %s year.\n", year, leap? "leap"
27       : "common");
28
29 return 0;
30 }
```

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4 #include <stdio.h>
5
6 int main() {
7     int year = 0;
8     scanf("%d", &year);
9
10    int leap = 0;
11
12    if (year % 4 != 0) {
13        leap = 0;
14    } else {
15        if (year % 100 != 0) {
16            leap = 1;
17        } else {
18            if (year % 400 != 0) {
19                leap = 0;
20            } else {
21                leap = 1;
22            }
23        }
24    }
25
26    if (leap == 0) {
27        printf("The year %d is a common year.\n", year);
28    } else {
29        printf("The year %d is a leap year.\n", year);
30    }
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32    return 0;
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8     scanf("%d", &year);
9
10    int leap = 0;
11
12    if (year % 4 != 0) {
13        leap = 0;
14    } else if (year % 100 != 0) {
15        leap = 1;
16    } else if (year % 400 != 0) {
17        leap = 0;
18    } else {
19        leap = 1;
20    }
21
22    if (leap == 0) {
23        printf("The year %d is a common year.\n", year);
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2 //
3
4 #include <stdio.h>
5
6 int main() {
7     int year = 0;
8     scanf("%d", &year);
9
10    // we use a 0/1 integer to indicate whether the year is
    a leap year or not.
11    int leap = 0;
12
13    if (year % 4 == 0) {
14        if (year % 100 == 0) {
15            if (year % 400 == 0) {
16                leap = 1;
17            } else {
18                leap = 0;
19            }
20        } else {
21            leap = 1;
22        }
23    } else {
24        leap = 0;
25    }
26
27    if (leap == 0) {
28        printf("The year %d is a common year.\n", year);
29    } else {
30        printf("The year %d is a leap year.\n", year);
31    }
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33    return 0;
34 }
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```
1 // Created by hfwei on 2022/10/6.
2 //
3
4 #include <stdio.h>
5
6 #define NUM 5
7
8 int main() {
9     int numbers[NUM] = {23, 56, 19, 11, 78};
10
11     int min = numbers[0];
12
13     // iteration 0: i = 1, i < 5 holds, min = 23, i = 2
14     // iteration 1: i = 2, i < 5 holds, min = 19, i = 3
15     // iteration 2: i = 3, i < 5 holds, min = 11, i = 4
16     // iteration 3: i = 4, i < 5 holds, min = 11, i = 5
17     // iteration 4: i = 5, i < 5 fails, terminates
18     for (int i = 1; i < NUM; ++i) { // iterate over the
        elements of an array
19         if (numbers[i] < min) { // repeat doing something on
            each element
20             min = numbers[i];
21         }
22     }
23
24     printf("min = %d\n", min);
25
26     return 0;
27 }
```

```
1 // Created by hfwei on 2022/10/6.
2 //
3
4 #include <stdio.h>
5
6 #define NUM 5
7
8 int main() {
9     int numbers[NUM] = {0};
10
11     for (int i = 0; i < NUM; ++i) {
12         scanf("%d", &numbers[i]);
13     }
14
15     int min = numbers[0];
16
17     // iteration 0: i = 1, i < 5 holds, min = 23, i = 2
18     // iteration 1: i = 2, i < 5 holds, min = 19, i = 3
19     // iteration 2: i = 3, i < 5 holds, min = 11, i = 4
20     // iteration 3: i = 4, i < 5 holds, min = 11, i = 5
21     // iteration 4: i = 5, i < 5 fails, terminates
22     for (int i = 1; i < NUM; ++i) { // iterate over the
        elements of an array
23         if (numbers[i] < min) { // repeat doing something on
            each element
24             min = numbers[i];
25         }
26     }
27
28     printf("min = %d\n", min);
29
30     return 0;
31 }
```

```
1 // Created by hfwei on 2022/10/6.
2 //
3
4 #include <stdio.h>
5 int main() {
6     int a;
7     int b;
8     int c;
9
10    scanf("%d%d%d", &a, &b, &c);
11
12    int min;
13    if (a > b) {
14        if (b > c) { // a > b > c
15            min = c;
16        } else { // a > b and b <= c
17            min = b;
18        }
19    } else { // a <= b
20        if (a > c) { // c < a <= b
21            min = c;
22        } else { // a <= b and a <= c
23            min = a;
24        }
25    }
26
27    printf("min{%d, %d, %d} = %d\n", a, b, c, min);
28
29    return 0;
30 }
31
```

```
1 // Created by hfwei on 2022/10/6.
2 //
3
4 #include <stdio.h>
5
6 int main() {
7     int a = 0;
8     int b = 0;
9
10    scanf("%d%d", &a, &b);
11
12    int min;
13    if (a >= b) {
14        min = b;
15    } else {
16        min = a;
17    }
18
19    printf("min{%d, %d} = %d\n", a, b, min);
20
21    return 0;
22 }
```



```
1 // Created by hfwei on 2022/10/6.
2 //
3
4 #include <stdio.h>
5 int main() {
6     double a = 0.0;
7     double b = 0.0;
8
9     scanf("%lf%lf", &a, &b);
10
11     double min;
12
13     // do not use >= for doubles
14     if (a >= b) {
15         min = b;
16     } else {
17         min = a;
18     }
19
20     printf("min{%.20f, %.20f} = %.20f\n", a, b, min);
21
22     return 0;
23 }
24
```