

#### Exercise 4.34

1) Replacing a **do...while** loop with an equivalent **while** loop:

The body of a **do...while** loop becomes the body of a **while** loop, and the contents of the body are repeated before the **while** loop. In a **do...while** loop, the body is executed at least once, whereas execution of the body in a **while** loop depends on the continuation condition.

```
do {  
    statements  
} while (condition);
```

becomes

```
statements  
while (condition) {  
    statements  
}
```

To ensure that at least one loop is executed as in a **do..while** loop.

2) Replacing a **while** loop with an equivalent **do...while** loop:

Replacing a **while** loop with a **do...while** loop requires an **if** selection statement. The **do...while** loop would be the body of the **if** statement and the condition would be the same as the loop continuation condition in the **do...while**.

```
while (condition) {  
    statements  
}
```

becomes

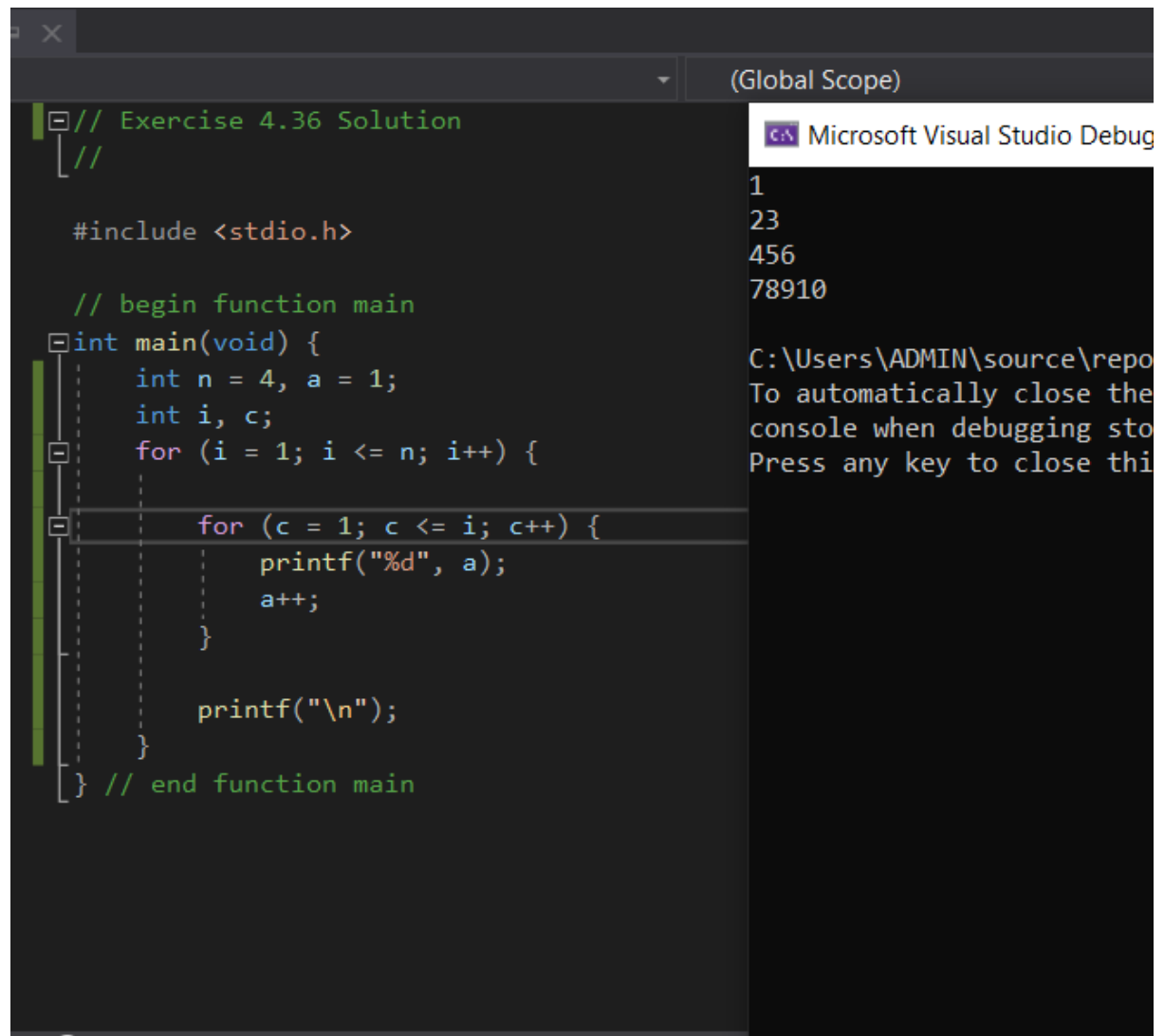
```
if (condition) {  
    do {  
        statements  
    } while (condition);  
}
```

To ensure that every loop is executed only after the continuation condition is checked.

#### Exercise 4.35

The **break** statement leaves a loop from within the body of the loop. The other way to leave is by failing the loop-continuation test. Using in the loop-continuation test a second test that indicates “early exit because of a ‘**break**’ condition”.

### Exercise 4.36



```
// Exercise 4.36 Solution
//

#include <stdio.h>

// begin function main
int main(void) {
    int n = 4, a = 1;
    int i, c;
    for (i = 1; i <= n; i++) {
        for (c = 1; c <= i; c++) {
            printf("%d", a);
            a++;
        }

        printf("\n");
    } // end function main
}
```

Microsoft Visual Studio Debug Console

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console when debugging sto  
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