

Operators in C

Lecture 2 Assignments

1. Code the following:
 - a. Prompt the user to enter a two-digit number
 - b. Display the number with the digits reversed

```
1  #include <stdio.h>
2
3  int main()
4  {
5      int number, answer = 0;
6
7      printf("Enter a 2-digit number: ");
8      scanf("%d", &number);
9
10     while(number > 0)
11     {
12         int lastnum = number % 10;
13
14         answer = answer * 10 + lastnum;
15
16         number = number / 10;
17     }
18
19     printf("The reversed number is %d\n", answer);
20
21     return 0;
22 }
23
```

```
"C:\Users\Toshiba\Documents\first project\bin\Debug\first project.exe"
Enter a 2-digit number: 21
The reversed number is 12
Process returned 0 (0x0)   execution time : 3.915 s
Press any key to continue.
```

2. Extend the code in item 1, such that it reverses a 3-digit number.

```
1  #include <stdio.h>
2
3  int main()
4  {
5      int number, answer = 0;
6
7      printf("Enter a 3-digit number: ");
8      scanf("%d", &number);
9
10     while(number > 0)
11     {
12         int lastnum = number % 10;
13
14         answer = answer * 10 + lastnum;
15
16         number = number / 10;
17     }
18
19     printf("The reversed number is %d\n", answer);
20
21     return 0;
22 }
23
```

```
"C:\Users\Toshiba\Documents\first project\bin\Debug\first project.exe"
Enter a 3-digit number: 123
The reversed number is 321
Process returned 0 (0x0)   execution time : 2.344 s
Press any key to continue.
```

3. Provide the output of the following codes, given that i, j, and k are integer variables.

a. `i = 3; j = 4; k = 5; printf("%d",
i < j || ++j < k);`

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      int i = 3, j = 4, k = 5;
6
7      printf("%d", i < j || ++j < k);
8
9      return 0;
10 }
11
```

```
"C:\Users\Toshiba\Documents\first project\example.exe"
1
Process returned 0 (0x0)   execution time : 0.047 s
Press any key to continue.
```

b. `i = 7; j = 8; k = 9; printf("%d", i
- 7 && j++ < k);`

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      int i = 7, j = 8, k = 9;
6
7      printf("%d", i - 7 && j++ < k);
8
9      return 0;
10 }
11
12
```

```
"C:\Users\Toshiba\Documents\first project\example.exe"
0
Process returned 0 (0x0)   execution time : 0.047 s
Press any key to continue.
```

c. `i = 7; j = 8; k = 9;
printf("%d", (i = j) || (j == k)); printf("%d
%d %d", i, j, k);`

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      int i = 7, j = 8, k = 9;
6
7      printf("%d", (i = j) || (j == k));
8      printf("%d %d %d", i, j, k);
9
10     return 0;
11 }
12
```

```
"C:\Users\Toshiba\Documents\first project\example.exe"
18 8 9
Process returned 0 (0x0)   execution time : 0.047 s
Press any key to continue.
```

d. `i = j = k = 1;`

```
printf("%d", ++i || ++j && ++k);    printf("%d
%d %d", i, j, k);
```

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      int i = j = k = 1;
6
7      printf("%d", ++i || ++j && ++k);
8      printf("%d %d %d", i, j, k);
9
10
11     return 0;
12 }
13
```

The screenshot shows a code editor with the following C code:

```
1  #include <stdio.h>
2
3  int main(void)
4  {
5      int i = j = k = 1;
6
7      printf("%d", ++i || ++j && ++k);
8      printf("%d %d %d", i, j, k);
9
10
11     return 0;
12 }
13
```

The error messages in the 'Logs & others' panel are:

- Build file: "no target" in "no project" (compiler: unknown) ==
- In function 'main':
- error: 'j' undeclared (first use in this function)
- note: each undeclared identifier is reported only once for each function it appears in
- error: 'k' undeclared (first use in this function)

The status bar at the bottom indicates: C/C++ Windows (CR+LF) WINDOWS-1252 Line 5, Col 1, Pos 41 Insert