Exercises (1)

What will the following printf() print out?

printf("The number%d wins!", 5321);

printf("The number%6d wins!", 5321);

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Solution to Exercises (1)

printf("The number%d wins!", 5321);
Output: The number5321 wins!

printf("The number%6d wins!", 5321);
Output: The number 5321 wins!

Two blank spaces in between number and 5321

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Exercises (2)

What will the following printf() print out?

```
printf("The number%6d wins!\n", 5321);
printf("The number%06d wins!\n", 5321);
printf("The number%-6d wins!\n", 5321);
```


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Solution to Exercises (2)

What will the following printf() print out?

```
printf("The number%6d wins!\n", 5321);
printf("The number%06d wins!\n", 5321);
printf("The number%-6d wins!\n", 5321);
```

The number 5321 wins! (note: 2 spaces before 5321)
The number005321 wins!
The number5321   wins! (note: 3 spaces after 5321)

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Exercises (3)

Show what the following printf statements print out:

- printf("%d%c%f", 23, 'a', 5.3);
- printf("%d %c %f", 23, 'a', 5.3);
- int num1=23;
  char bee = 'a';
  float num2=5.3;
  printf("%d %c %f", num1, bee, num2);

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Solution to Exercises (3)

- printf("%d%c%f", 23, 'a', 5.3);
  23a5.300000
  Note: data are formatted without space between values because there are no spaces between the field specifications
- printf("%d %c %f", 23, 'a', 5.3);
  23 a 5.300000
  Note: a repeat of last example with spaces between field specifications
- int num1=23;
  char bee = 'a';
  float num2=5.3;
  printf("%d %c %f", num1, bee, num2);
  23 a 5.300000
  Note: the same example, this time using variables, instead of literal constants

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Exercises (4)

Show what the following printf statements print out:

- printf("%d\t%c\t%5.1f\n", 23, 'a', 51.3);
- printf("%d\t%c\t%5.1f\n", 107, 'A', 56.7);
- printf("%d\t%c\t%5.1f\n", 1753, 'D', 151.3);
- printf("%d\t%c\t%5.1f\n", 3, 'c', 0.3);

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Solution to Exercises (4)

- printf("%d\t%c\t%5.1f\n", 23, 'a', 51.3);
- printf("%d\t%c\t%5.1f\n", 107, 'A', 56.7);
- printf("%d\t%c\t%5.1f\n", 1753, 'D', 151.3);
- printf("%d\t%c\t%5.1f\n", 3, 'c', 0.3);

```
23      a       51.3
107     A       56.7
1753    D      151.3
3       c        0.3
```

(right justified!)

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Exercises (5)

Show what the following printf statements print out:

- printf("The number%dis my favorite number.", 23);
- printf("The number is %6d", 23);
- printf("The number is %06d", 23);

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Solution to Exercises (5)

- printf("The number%dis my favorite number.", 23);
- printf("The number is %6d", 23);
- printf("The number is %06d", 23);

The number23is my favorite number.

Note1: number 23 is run together with text before and after because there are no spaces before and after format code %d

The number is 23

Note2: there are 5 spaces between "is" and "23": first space comes from the space after "is" and before "%" in the format string; the other 4 come from the width specification

The number is 000023

Note 3: use zero flag to print leading zeros

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Exercises (6)

Show what the following printf statements print out:

- printf("The tax is %6.2f this year.", 233.32);
- printf("The tax is %8.2f this year.", 233.32);
- printf("The tax is %08.2f this year.", 233.32);

Solution to Exercises (6)

- printf("The tax is %6.2f this year.", 233.32);
- printf("The tax is %8.2f this year.", 233.32);
- printf("The tax is %08.2f this year.", 233.32);

The tax is 233.32 this year.
The tax is 233.32 this year.
Note: there are 3 spaces between "is" and "233.32"
The tax is 00233.32 this year.

Exercise (7)

- Each of the following printf has at least one error. Try to find it.

```
Printf("%d %d %d\n", 33, 66);

printf("%d %d\n", 33, 44, 55)
```


Solution to Exercise (7)

```
Printf("%d %d %d\n", 33, 66);
```

* 3 field specifications (conversion codes) but only 2 values

**Printf should be printf

```
printf("%d %d\n", 33, 44, 55)
```

* ; missed

**2 field specifications with 3 values. In this case, printf ignores the third value!