

Formatted Printing: printf

Do NOT write on this test. Record all answers on the bubble sheet. **Closed book. No notes.** Work strictly from memory. **No calculators. No time limit. Scratch paper okay.**

On the following printf questions you are given a list of inputs. For each problem line determine which printf statement created the accompanying outputs. (means space.)

Which of these printf statements created the outputs shown for each problem below? (x is int x;)

- (A) printf("uuuuuu%-4d",x); (D) printf("uu%-u5duu",x); (G) printf("u%-9d",x);
 (B) printf("uuuu%u5d",x); (E) printf("uu%+-4duuuu",x); (H) printf("u%06duuu",x);
 (C) printf("uuuu%uduuuuu",x); (F) printf("uu%-2duuuuuu",x); (I) printf("%-10d",x);

inputs:	<u> 2</u>	<u> -3</u>	<u>1608634306</u>	<u>-1453516542</u>
1/1p.	uuuuuuuu2u	uuuuuuuu-3u	uuuuu1608634306u	uuuu-1453516542u
2/1p.	uu+2uuuuuu	uu-3uuuuuu	uu+1608634306uuuu	uu-1453516542uuuu
3/1p.	2uuuuuuuuu	-3uuuuuuuu	1608634306	-1453516542
4/1p.	uuuu2uuuuu	uuu-3uuuuu	uuuu1608634306uu	uuu-1453516542uu
5/1p.	u2uuuuuuuu	u-3uuuuuuu	u1608634306	u-1453516542
6/1p.	uuuuuu2uuu	uuuuuu-3uu	uuuuuu1608634306	uuuuuu-1453516542
7/1p.	uuuuu2uuuuu	uuuu-3uuuuu	uuuuu1608634306uuuuu	uuuu-1453516542uuuuu
8/1p.	u000002uuu	u-00003uuu	u1608634306uuu	u-1453516542uuu

Which of these printf statements created the outputs shown for each problem below? (x is int x;)

- (A) printf("uuu%02duuu",x); (D) printf("uu%+4duu",x); (G) printf("uu%6d",x);
 (B) printf("uuu%4du",x); (E) printf("uu%-5du",x); (H) printf("u%04duuuu",x);
 (C) printf("uu%u4duu",x); (F) printf("uu%0+3duuu",x); (I) printf("%-8d",x);

inputs:	<u> 3</u>	<u> -5</u>	<u>1746689629</u>	<u>-1355832312</u>
9/1p.	uuuuuuu3	uuuuuuu-5	uu1746689629	uu-1355832312
10/1p.	uuuuuu3u	uuuuu-5u	uuu1746689629u	uuu-1355832312u
11/1p.	uuuu+3uu	uuuu-5uu	uu+1746689629uu	uu-1355832312uu
12/1p.	uuuuu3uu	uuuu-5uu	uuu1746689629uu	uu-1355832312uu
13/1p.	uu3uuuuu	uu-5uuuu	uu1746689629u	uu-1355832312u
14/1p.	uuu03uuu	uuu-5uuu	uuu1746689629uuu	uuu-1355832312uuu
15/1p.	3uuuuuuu	-5uuuuuu	1746689629	-1355832312
16/1p.	uu+03uuu	uu-05uuu	uu+1746689629uuu	uu-1355832312uuu

Which of these printf statements created the outputs shown for each problem below? (x is int x;)

- (A) printf("uuu%-+3du",x); (D) printf("u%-u6d",x); (G) printf("%duuuuuuu",x);
 (B) printf("uuu%-5d",x); (E) printf("u%3duuu",x); (H) printf("%+5duu",x);
 (C) printf("uu%04du",x); (F) printf("u%06du",x); (I) printf("%+6du",x);

inputs:	<u> 2</u>	<u> -4</u>	<u>1405178297</u>	<u>-1866801985</u>
17/1p.	uuu002u	uu-004u	uuu1405178297u	uu-1866801985u
18/1p.	uuu+2uu	uuu-4uu	uuu+1405178297u	uuu-1866801985u
19/1p.	uuuu+2u	uuuu-4u	+1405178297u	-1866801985u
20/1p.	uuu2uuu	uu-4uuu	u1405178297uuu	u-1866801985uuu
21/1p.	u00002u	-00004u	u1405178297u	-1866801985u
22/1p.	uu2uuuu	uu-4uuu	uu1405178297	uu-1866801985
23/1p.	uu2uuuu	u-4uuuu	uu1405178297	u-1866801985
24/1p.	uuu+2uu	uuu-4uu	+1405178297uu	-1866801985uu

Which of these printf statements created the outputs shown for each problem below? (x is char * x;)

- (A) `printf("____%-2s",x);` (D) `printf("_%3s_",x);` (G) `printf("%4s_",x);`
 (B) `printf("____%2s_",x);` (E) `printf("%-4s_",x);` (H) `printf("%5s_",x);`
 (C) `printf("____%s____",x);` (F) `printf("%-5s_",x);` (I) `printf("%6s",x);`

inputs:	<u>" "</u>	<u>"j"</u>	<u>"cj"</u>	<u>"pv gj"</u>	<u>"vzhbgg"</u>	<u>"gcxkxkbb"</u>
25/1p.	____	____j	____cj	____pv gj	____vzhbgg	____gcxkxkbb
26/1p.	____	____j	____cj	____pv gj	____vzhbgg	____gcxkxkbb
27/1p.	____	____j	____cj	____pv gj	____vzhbgg	____gcxkxkbb
28/1p.	____	____j	____cj	____pv gj	____vzhbgg	____gcxkxkbb
29/1p.	____	____j	____cj	____pv gj	____vzhbgg	____gcxkxkbb
30/1p.	____	____j	____cj	____pv gj	____vzhbgg	____gcxkxkbb

Which of these printf statements created the outputs shown for each problem below? (x is char * x;)

- (A) `printf("____%1s",x);` (D) `printf("_%1s_",x);` (G) `printf("%-4s",x);`
 (B) `printf("____%s_",x);` (E) `printf("_%3s",x);` (H) `printf("%2s_",x);`
 (C) `printf("_% -2s_",x);` (F) `printf("%-3s_",x);` (I) `printf("%4s",x);`

inputs:	<u>" "</u>	<u>"j"</u>	<u>"wl"</u>	<u>"ckcw"</u>	<u>"hdzphv"</u>	<u>"qhvyklqv"</u>
31/1p.	____	____j	____wl	____ckcw	____hdzphv	____qhvyklqv
32/1p.	____	____j	____wl	____ckcw	____hdzphv	____qhvyklqv
33/1p.	____	____j	____wl	____ckcw	____hdzphv	____qhvyklqv
34/1p.	____	____j	____wl	____ckcw	____hdzphv	____qhvyklqv
35/1p.	____	____j	____wl	____ckcw	____hdzphv	____qhvyklqv

Which of these printf statements created the outputs shown for each problem below? (x is double x;)

- (A) `printf("____%+10.2f",x);` (D) `printf("_%+13.6f",x);` (G) `printf("%0+13.0f_",x);`
 (B) `printf("____%+010.2f_",x);` (E) `printf("_%13.2f",x);` (H) `printf("%013.6f_",x);`
 (C) `printf("____%10.0f_",x);` (F) `printf("%+014.6f",x);` (I) `printf("%13.6f_",x);`

inputs:	<u>9</u>	<u>8.64</u>	<u>1.3369</u>	<u>-18311.195712</u>
36/1p.	____+000009.00	____+000008.64	____+000001.34	____-018311.20
37/1p.	____+000009.00	____+000008.64	____+000001.34	____-18311.20
38/1p.	____+000009.00	____+000008.64	____+000001.34	____-18311.20
39/1p.	____+9.000000	____+8.640000	____+1.336900	____-18311.195712
40/1p.	____+9.00	____+8.64	____+1.34	____-18311.20
41/1p.	____000009.000000	____000008.640000	____000001.336900	____-18311.195712

Which of these printf statements created the outputs shown for each problem below? (x is double x;)

- (A) `printf("____%0+10.2f_",x);` (D) `printf("_%11.4f_",x);` (G) `printf("%+14f",x);`
 (B) `printf("____%0+10f_",x);` (E) `printf("_%13f",x);` (H) `printf("%14.0f",x);`
 (C) `printf("____%012.2f",x);` (F) `printf("%+012.0f_",x);` (I) `printf("%14.6f",x);`

inputs:	<u>7</u>	<u>6.61</u>	<u>1.6979</u>	<u>-531594.610977</u>
42/1p.	____+07.000000	____+06.610000	____+01.697900	____-531594.610977
43/1p.	____+07.000000	____+06.610000	____+01.697900	____-531594.611000
44/1p.	____+07.000000	____+06.610000	____+01.697900	____-531594.610977
45/1p.	____+07.000000	____+06.610000	____+01.697900	____-531594.610977
46/1p.	____+7.000000	____+6.610000	____+1.697900	____-531594.610977
47/1p.	____000000007.00	____000000006.61	____000000001.70	____-00531594.61

Total points 47.

Answer Key (points per line)

1 (1).	B	25 (1).	B
2 (1).	E	26 (1).	A
3 (1).	I	27 (1).	H
4 (1).	D	28 (1).	D
5 (1).	G	29 (1).	C
6 (1).	A	30 (1).	G
7 (1).	C	31 (1).	E
8 (1).	H	32 (1).	G
9 (1).	G	33 (1).	D
10 (1).	B	34 (1).	F
11 (1).	D	35 (1).	C
12 (1).	C	36 (1).	B
13 (1).	E	37 (1).	E
14 (1).	A	38 (1).	C
15 (1).	I	39 (1).	D
16 (1).	F	40 (1).	A
17 (1).	C	41 (1).	H
18 (1).	A	42 (1).	B
19 (1).	I	43 (1).	D
20 (1).	E	44 (1).	E
21 (1).	F	45 (1).	I
22 (1).	B	46 (1).	G
23 (1).	D	47 (1).	C
24 (1).	H		

Total points 47.