

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("uuuu%+d",x); (D) printf("%d",x); (G) printf("%+-8d",x);
 (B) printf("uuuu%-3d",x); (E) printf("%05d",x); (H) printf("%08d",x);
 (C) printf("uu%+5d",x); (F) printf("%8d",x); (I) printf("%06d",x);

inputs:	<u> 9</u>	<u> -2</u>	<u>1459284759</u>	<u>-1662308468</u>
1/1p.	+9uuuuuu	-2uuuuuu	+1459284759	-1662308468
2/1p.	uuuu9uu	uuu-2uu	uuuu1459284759uu	uuu-1662308468uu
3/1p.	uuuu+9u	uuuuu-2u	uu+1459284759u	uu-1662308468u
4/1p.	uu9uuuuuu	u-2uuuuuu	uu1459284759uuuuuu	u-1662308468uuuuuu
5/1p.	uuuuuuu9	uuuuuu-2	u1459284759	-1662308468
6/1p.	u00009uu	u-0002uu	u1459284759uu	u-1662308468uu
7/1p.	u0000009	-000002	u1459284759	-1662308468
8/1p.	000009uu	-00002uu	1459284759uu	-1662308468uu

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

- (A) printf("uuu%04d",x); (D) printf("%+4d",x); (G) printf("%-6d",x);
 (B) printf("uuu%2d",x); (E) printf("%-5d",x); (H) printf("%07d",x);
 (C) printf("uu%-4d",x); (F) printf("%6d",x); (I) printf("%07d",x);

inputs:	<u> 4</u>	<u> -3</u>	<u>1422389026</u>	<u>-1320354952</u>
9/1p.	uuuu4uu	uuu-3uu	uuu1422389026uu	uuu-1320354952uu
10/1p.	uuuuuu4	uuuuu-3	u1422389026	u-1320354952
11/1p.	4uuuuuu	-3uuuuu	1422389026u	-1320354952u
12/1p.	000004	-00003	1422389026	-1320354952
13/1p.	uuu4uuu	uu-3uuu	uuu1422389026u	uu-1320354952u
14/1p.	u+4uuuu	u-3uuuu	u+1422389026uu	u-1320354952uu
15/1p.	u4uuuuu	u-3uuuu	u1422389026u	u-1320354952u
16/1p.	uuu0004	uuu-003	uuu1422389026	uuu-1320354952

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

- (A) printf("uuu%+03d",x); (D) printf("%-4d",x); (G) printf("%u05d",x);
 (B) printf("uu%-06d",x); (E) printf("%02d",x); (H) printf("%+6d",x);
 (C) printf("uu%+d",x); (F) printf("%-8d",x); (I) printf("%8d",x);

inputs:	<u> 0</u>	<u> -9</u>	<u>1672455513</u>	<u>-1505829951</u>
17/1p.	uu+0uuuuuu	uu-9uuuuuu	uu+1672455513uuuuuu	uu-1505829951uuuuuu
18/1p.	uuuuu+0uu	uuuuu-9uu	u+1672455513uu	u-1505829951uu
19/1p.	uu0uuuuuu	uu-9uuuuu	uu1672455513uuu	uu-1505829951uuu
20/1p.	uu0000uuu	u-0009uuu	uu1672455513uuu	u-1505829951uuu
21/1p.	uuu+00uuu	uuu-09uuu	uuu+1672455513uuu	uuu-1505829951uuu
22/1p.	uuu00000u	uu-00009u	uuu1672455513u	uu-1505829951u
23/1p.	uu0uuuuuu	u-9uuuuuu	uu1672455513	u-1505829951
24/1p.	uuuuuuuu0	uuuuuuu-9	u1672455513	u-1505829951

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("%-7s",x);
 (B) printf("____%3s____",x); (E) printf("____%-5s____",x); (H) printf("%5s____",x);
 (C) printf("____%2s____",x); (F) printf("____%4s____",x); (I) printf("%7s",x);

	<u>" "</u>	<u>"x"</u>	<u>"vq"</u>	<u>"qpkg"</u>	<u>"zckvpg"</u>	<u>"ywkdpbqd"</u>
25/1p.	_____	_____x	_____vq	_____qpkg	_____zckvpg	_____ywkdpbqd
26/1p.	_____	_____x_____	_____vq_____	_____qpkg_____	_____zckvpg_____	_____ywkdpbqd_____
27/1p.	_____	_____x_____	_____vq_____	_____qpkg_____	_____zckvpg_____	_____ywkdpbqd_____
28/1p.	_____	_____x_____	_____vq_____	_____qpkg_____	_____zckvpg_____	_____ywkdpbqd_____
29/1p.	_____	_____x_____	_____vq_____	_____qpkg_____	_____zckvpg_____	_____ywkdpbqd_____
30/1p.	_____	_____x_____	_____vq_____	_____qpkg_____	_____zckvpg_____	_____ywkdpbqd_____

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

- (A) printf("_____%s____",x); (D) printf("_____-3s____",x); (G) printf("%-2s____",x);
 (B) printf("_____%s____",x); (E) printf("_____-4s____",x); (H) printf("%4s____",x);
 (C) printf("_____%1s____",x); (F) printf("_____%3s____",x); (I) printf("%5s",x);

	<u>" "</u>	<u>"z"</u>	<u>"cq"</u>	<u>"ldbz"</u>	<u>"wgvvgx"</u>	<u>"qycpdygx"</u>
31/1p.	_____	_____z_____	_____cq_____	_____ldbz_____	_____wgvvgx_____	_____qycpdygx_____
32/1p.	_____	_____z_____	_____cq_____	_____ldbz_____	_____wgvvgx_____	_____qycpdygx_____
33/1p.	_____	_____z_____	_____cq_____	_____ldbz_____	_____wgvvgx_____	_____qycpdygx_____
34/1p.	_____	_____z_____	_____cq_____	_____ldbz_____	_____wgvvgx_____	_____qycpdygx_____
35/1p.	_____	_____z_____	_____cq_____	_____ldbz_____	_____wgvvgx_____	_____qycpdygx_____

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

- (A) printf("_____%+10.0f____",x); (D) printf("_____%012.4f____",x); (G) printf("%+14.0f",x);
 (B) printf("_____%0+11.0f____",x); (E) printf("_____%+012.2f____",x); (H) printf("%+14f",x);
 (C) printf("_____%012.2f____",x); (F) printf("_____%+014f____",x); (I) printf("%12f____",x);

	<u>7</u>	<u>-4.04</u>	<u>6.6584</u>	<u>-396722.213188</u>
36/1p.	_____0000007.0000_____	_____0000004.0400_____	_____0000006.6584_____	_____00000000000000000000_____
37/1p.	_____00000000000000000000_____	_____00000000000000000000_____	_____00000000000000000000_____	_____00000000000000000000_____
38/1p.	_____0000007.000000_____	_____0000004.040000_____	_____0000006.658400_____	_____00000000000000000000_____
39/1p.	_____00+00000000007_____	_____00-00000000004_____	_____00+00000000007_____	_____00-0000396722_____
40/1p.	_____+00000007.00_____	_____00000004.04_____	_____+00000006.66_____	_____00000000000000000000_____
41/1p.	_____000000007.00_____	_____00000004.04_____	_____000000006.66_____	_____00000000000000000000_____

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

- (A) printf("_____%0+11f____",x); (D) printf("_____%012.4f____",x); (G) printf("%014.4f",x);
 (B) printf("_____%+12.4f____",x); (E) printf("_____%+13.2f____",x); (H) printf("%13.0f____",x);
 (C) printf("_____%+010.6f____",x); (F) printf("_____%0+14.2f____",x); (I) printf("%14.2f",x);

	<u>7</u>	<u>5.88</u>	<u>2.0720</u>	<u>-579077.437408</u>
42/1p.	_____00000000000000000000_____	_____00000000000000000000_____	_____00000000000000000000_____	_____00000000000000000000_____
43/1p.	_____000+007.000000_____	_____000+005.880000_____	_____000+002.072000_____	_____000-579077.437408_____
44/1p.	_____+00000000007.00_____	_____+00000000005.88_____	_____+00000000002.07_____	_____00000000000000000000_____
45/1p.	_____00000000000000000000_____	_____00000000000000000000_____	_____00000000000000000000_____	_____00000000000000000000_____
46/1p.	_____0+07.000000_____	_____0+05.880000_____	_____0+02.072000_____	_____00000000000000000000_____
47/1p.	_____00000007.0000_____	_____00000005.8800_____	_____00000002.0720_____	_____00000000000000000000_____

Total points 47.

Answer Key (points per line)

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

Total points 47.