02635 quiz 1

Total Questions: 10

Most Correct Answers: **#5**

Least Correct Answers: **#1**

1. **Which format specifiers can be used to print the value of a variable of type double using printf()?**

8/78 (A) %d

14/78 (B) %e

23/78 (C) %f

9/78 (D) %g

66/78 (E) %lf

2. **The format specifiers %e, %f, and %g can be used with scanf to read a floating-point number of type double.**

39/78 (A) True

34/78 (B) False

3. **Consider the following variable declaration:**

double data[100];

What is the length of the array data and what is the index of the last element?

1/78 (A) The array has length 99 and the last element is data[99]

0/78 (B) The array has length 99 and the last element is data[100]

71/78 (C) The array has length 100 and the last element is data[99]

1/78 (D) The array has length 100 and the last element is data[100]

4. **Which of the following prototypes are valid for the main function?**

1/78 (A) int * main(void);

70/78 (B) int main(void);

0/78 (C) float main(void);

2/78 (D) double main(void);

5. How many bytes is a double?

1/78	A	2 bytes
0/78	B	4 bytes
0/78	C	6 bytes
72/78	D	8 bytes

6. What is the output produced by the following loop?

```
int i;
for (i=0; i<5; i++) printf("%d\n",i++);
```

30/78	A	0 1 2 3 4
17/78	B	1 2 3 4 5
3/78	C	1 3
3/78	D	1 3 5
20/78	E	0 2 4

7. Catastrophic cancellation may occur when...

62/78	A	when nearly equal quantities are subtracted
3/78	B	when nearly equal quantities are multiplied
0/78	C	when nearly equal quantities are added
6/78	D	when a small number is subtracted from a large number

8. Recall that the machine epsilon for a given floating-point number system is the smallest a-1 such a is is different from 1. What is the machine epsilon for double precision floating-point numbers?

7/78	A	2^(−23) or approximately 1.19e-07
46/78	B	2^(−52) or approximately 2.22e-16
17/78	C	2^(−63) or approximately 1.08e-19

9. Consider the following code:

```
double v;
int x = 3, y = 2;
v = x/y;
```

What is the value of v?

44/78 (A) 1.0

22/78 (B) 1.5

4/78 (C) 2.0

0/78 (D) 3.0

10. Consider the following code:

```
double data[5] = {0.0, 0.0, 0.0, 0.0, 0.0};
double *ptail = data + 4;
ptail[-4] = 1.0;
*(ptail-2) = -1.0;
```

What are the values of the five elements of the array after these statements?

6/78 (A) {1.0, 4.0, -1.0, 4.0, 4.0}

2/78 (B) {0.0, 0.0, 0.0, 0.0, 0.0}

52/78 (C) {1.0, 0.0, -1.0, 0.0, 0.0}

7/78 (D) {0.0, 1.0, 0.0, -1.0, 0.0}

3/78 (E) {0.0, 0.0, 1.0, 0.0, -1.0}