

SOLUTION

60-140-01/02 Fall 2015 Inclass Exercise for Class Participation (Nov. 2/3, or 9/10 2015)

Also Good as a Mock quiz 2 exercise. Solution will be given later, but first Trace through the following programs/program segments and answer the questions following and hand in your paper with your name.

Student Name and id: \_\_\_\_\_

Lecture Section (circle one): 1, 2

Lab Section(circle one): Lab 51, 52, 53, 54, 55, 56, 57

Lab Times:Lab 51(W 2:30pm),52(W 4:00pm),53(T 1:00pm),54(W 10:00am),55(M 5:30pm), 56(W 5:30pm), 57(W 7:00pm)

.....

```
#include <stdio.h>
int a=10; int b=4; int c;      /*these are global variables */

int fun(int ,int *,int *);      /* function prototype */

void main(void){
    int a = 9; int b = 1; int c;
    a = fun(a, &b, &c);
}                                /*end of main*/

int fun(int u, int * v, int * w)
{
    *v = a / b;
    c = *v + a;
    *w = u + c;
    a = c + b;
    b = a + *v;

    return u + *w;
}
```

1. What is the value of variable *c* in main?  
a. 20      b. 52      c. 47      **√d. 21**      e. None of above
2. What is the value of value of variable *a* in the Global Area?  
a. 22      b. 10      c. 9      **√d. 16**      e. None of the above
3. What is the value of variable *b* in the Global Area?  
**√a. 18**      b. 52      c. 47      d. 1      e. None of above
4. What is the value of variable *b* in main?  
**√a. 2**      b. 52      c. 47      d. 1      e. None of above
5.    if (!(20 > 16))  
        printf (“never”);

```
else
    printf ("always");
```

- a. never
- c. never always
- e. none of the above
- b. always
- d. 20 > 16

The next four questions refer to the following program.

```
#include <stdio.h>
void main(void){
    int Z = 0, G = 0, S = 0, I = 1, T;
    while (I < 20) {
        scanf ("%d", &T); /* T does not need to be known to do the questions */
        S += T;
        if (T >= 0)
            G ++;
        else Z ++;
        I ++;
    }
}
```

- 6. How many times is the while statement executed?
  - a. 19 times
  - b. 20 times
  - c. once
  - d. never
  - e. until a number 50 or larger is entered
  
- 7. The value stored in variable S at the end of the execution of the loop could best be described as the
  - a. average of the numbers read
  - b. largest of all numbers read
  - c. sum of all numbers read
  - d. number of numbers read
  - e. sentinel value terminating the loop
  
- 8. The value stored in variable Z at the end of the execution of the loop could best be described as the
  - a. number of positive items read
  - b. sum of all positive items read
  - c. number of negative items read
  - d. sum of all negative items read
  - e. sentinel value terminating the loop
  
- 9. How many times is the printf instruction in the following nested “for loop” executed?

```
for (r = 1; r <= 4; r++)
    for (c = 1; c <= 2; c++)
        printf(“%d %d \n”, r, c);
```

  - a. 4 times
  - b. 5 times
  - c. 8 times
  - d. 0 times
  - e. None of the above