04 Jeremy Vuong

Section: _____ Name: _____

Problems 1-10 refer to the following statements:

```
/*        0  1  2  3  4  5  array positions */
int x[] = {5, 6, 4, -8, 3, 7};
int *ptr = &x[0];
```

What is the value of the following expressions? For each problem, restart with the values as above.

	Work Space	Your Answer	Computer
1. *ptr	x[0] = 5 _____	5 1. _____	5 1. _____
2. *ptr + 3	5 + 3 = _____	8 2. _____	8 2. _____
3. *(ptr+3)	x[0+3] = x[3] = _____	-8 3. _____	-8 3. _____
4. *ptr + *(ptr + 5)	x[0] + x[0+5] = 5 + 7 = _____	12 4. _____	12 4. _____
5. *(ptr + 2) - 1	x[0+2] - 1 = 4 -1 = _____	3 5. _____	3 5. _____
6. x[3] - *ptr	x[3] - x[0] = -8 - 5 = _____	-13 6. _____	-13 6. _____
7. *ptr + x[5] + *(ptr + 1) + x[2]	5 + 7 + 6 + 4 = _____	22 7. _____	22 7. _____
8. *x	_____	5 8. _____	5 8. _____
9. *x + *ptr	5 + 5 _____	10 9. _____	10 9. _____
10. x[2] - *ptr + 3	4 - 5 + 3 = -1 + 3 _____	2 10. _____	2 10. _____

➔ more on next page

Problems 11-16 refer to the following declarations and function:

```
int partial_sum (int x[], int npts);   /* function prototype */

/* Array & variables as initialized in main, abridged */

 int main (void)

/*          0   1   2  3   4    5    6    7   array positions */
int a[ ] = {-6,  3,  4,  1,  8,  20,  16,  7};
int *ptr = &a[2];
partial_sum( see below);
```

```
/*-------------------------------------------------------------------------*/
/* This function will add up a fragment of the array    */
int partial_sum (int x[], int npts) {

  int k, sum = 0;

  /*  Compute partial sum.  */
  for (k = 0; k < npts; k++)
     sum += x[k];

  return sum;
}
/*----------------------------------------*/   /* workspace below */
```

	You	Computer
11. What is the value of the reference partial_sum(ptr, 2) 4 + 1 =	11. 5	11. 5
12. What is the value of the reference partial_sum(ptr+1, 3) 1 + 8 + 20 =	12. 29	12. 29
13. What is the value of the reference partial_sum(a, 8) -6 + 3 + 4 +1 +8 +20 +16 +7 =	13. 53	13. 53
14. What is the value of the reference partial_sum(a, 4) -6 + 3 + 4 + 1 =	14. 2	14. 2
15. What is the value of the reference partial_sum(ptr, a[1]) 4 + 1 + 8 =	15. 13	15. 13
16. What is the value of the reference partial_sum(&a[3], 2) 1 + 8 =	16. 9	16. 9

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Line 1. int y[] = {2, 13, 5, 17, 8, 6, 15}, *ptr = &y[3]; // could also do: int *ptr = y+3;

Line 2. *ptr = * ptr + 4;

Line 3. *(ptr+2) = y[0];

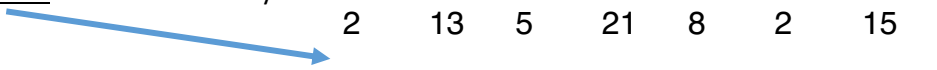
Questions:

17. What is the value of *ptr, after initialization, after line 1; 17. 17

18. What is the value of *ptr after the execution of line 2? 18. 21

19. What is the value of *(ptr+2) after the execution of line 3? 19. 2

20. What are the values in the whole array **after** all three lines of code have been executed?



FILE you need

The file you need for lab6 to fill in the "computer" part is: lab6.c

- To get it from the Coding computers:
  - First move to your class folder by typing: **cd csc60**
  - The long command below will create a lab6 directory and put one file in it.
  - Type: **cp /home/college/bielr/files_csc60/lab6.c .** (Don't miss the "space dot" after the **c)**
  - Next the file permissions need to be changed by typing: **chmod 644 lab6.c**
  - Now you can move into the lab6 directory
- You can also download it from Canvas.

Compile, run it, fill in the *Computer Section* of the worksheet.
No points off for wrong guesses.
The point is to learn from both the correct answers and the wrong ones.

Turn in this worksheet for credit:

- If you worked on a paper copy, scan the papers and then submit the PDFs to Canvas.
- If you worked electronically in Adobe, be sure to Save the File (upper left corner), and then submit it to Canvas.

Total Score = 26 points If turned in with the sheet filled in. Not grading for right or wrong.