

THERE WAS MORE SPACE IN ORIGINAL QUIZ!!

NAME_____

(1) (15 points) Print the values resulting from the following code fragment. Careful, at least one of these statements has an effect on a later statement. SHOW WORK!!

```
int x = 5, y = 2, r[10] = {2, 4, 6, 8, 10, 12, 14, 16, 18, 20}, *ip;
```

```
ip = &r[1] + 2;
```

```
x = *ip++;
```

```
printf ("%d, %d\n" , x, *(ip+1));
```

 ANSWER:

```
printf ("%d\n", ip[2]++);
```

 ANSWER:

```
y = *(&r[1]+4);
```

```
ip -= 2;
```

```
printf ("%d, %d\n", *ip, y);
```

 ANSWER:

(3) (15 points) Consider alloc.c of hw5 (handout with this Exam). Assume you are writing a new function and have a declaration of blockp: struct blockl *blocklp;

Write a few lines of code to test if the **leftmost block** in the allocbuf[] array is FREE (remember to cast appropriately), and return 1 if it is; if not, test if there is another block that sits directly on the right of the first (i.e., there will if there's more than one block in alloc), and if there is and that block is FREE, return 2. If you find neither block free, return 3.

CS240 Second Practice Quiz 2 Solutions, SPRING 2010

(1) int x = 5, y = 2, r[10] = {2, 4, 6, 8, 10, 12, 14, 16, 18, 20}, *ip;
 0 1 2 3 4 5 6 7 8 9

ip = &r[1] + 2; Pointer &r[1] points to 4, +2 points to 8.

```
x = *ip++;      Thus x = 8 / and ip++ will point to 10, so *(ip+1) is 12 below
printf ("%d, %d\n", x, *(ip+1));  ANSWER: 8, 12
```

/ ip[2] below is 14, gets incremented after the fact (set to 15 in r[])

```
printf ("%d\n", ip[2]++);
```

ANSWER: 14

`y = *(&r[1]+4);` `y = (basically) r[5] = 12` (No, not `r[6] = 15`)

```
ip -= 2; ip now points to 6
```

```
printf ("%d, %d\n", *ip, y);
```

ANSWER: 6, 12

```
(2) if ((blocklp = (struct blockl *)allocbuf) -> tag == FREETAG)
```

```
return 1;
```

```
if ((blocklp -> size < ALLOCSIZE && /* means at least two blocks in allocbuf */
    ((struct blockl *) (allocbuf + blocklp->size))->tag == FREESIZE) /* right one free */)
    return 0;
```

```
return 2;
```

```
return 3;
```

Quiz 2 Letter Grade Scaling of (Scaled) Numeric Grades

I am scaling grades (below 24) up 6 points to nearly match grades of Quiz 1.

X		X		X		X
	XXX	X	X X	X		X
10	15	20	25		30	
F D	D+ C-	C	C+	B	B+ A-	A