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Score: 80

Instructions

This quiz is graded against **100 points total** with exactly 100 points allotted to the questions. You are to **write legibly and show all workings** to derive your answers. Write in the given answer spaces below each question. Do assist by marking **“//”** at your final answer of each question to assist with grading.

Read the following code snippets and write the expected outputs in the answer boxes that follow. You may assume that all necessary includes are present. 4 questions, 25 marks each.

```
int i = 9;
int a[10] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9};
int* ptr = &a[0];

while (i > 0)
{
    *(ptr+i) *= 2;
    i /= 3;
}

for (ptr = &a[9]; ptr > &a[0]; --ptr)
{
    printf("%d\n", *ptr);
}
```

Answer:

18
8
2
6
5
4
6
2
2

```
int i = 0;
int a[5] = {0, 1, 2, 3, 4};
int *ptr1, *ptr2;
ptr1 = &a[0]; ptr2 = &a[4];
for (i = 0; i < 5; ++i)
{
    *ptr1 += i;
    *ptr2 += i;
    printf("%d, %d\n", *(ptr1+(i%5)), *(ptr2-(i%5)));
}
```

Answer:

0, 4
1, 3
2, 2
3, 1
4, 0
14, 10

```
char buffer[25] = "abcdefghijklmnopqrstuvwx";
char* ptr;

for (ptr = &buffer[0]; ptr < &buffer[24]; ptr += 5)
    *ptr = 0;

for (ptr = &buffer[0]; ptr < &buffer[24]; ptr += 3)
    printf("%s+", ptr);
```

Answer:

for ~~ptr~~ + ~~abc~~ + ~~ghij~~ + ~~k~~ + ~~mno~~ + ~~p~~ + ~~st~~ + ~~vwx~~

```
int a[10] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9};
int* ptr[10]; int** pPtr; int i;
```

```
for (i = 0; i < 10; ++i)
    ptr[i] = &a[i];
```

```
for (pPtr = &ptr[0], i = 0; i < 10; ++i)
{
    if (i % 2) old *pPtr = *pPtr - 1;
    else new *pPtr = *pPtr + 1;
}
```

$*pPtr = *pPtr - 1$
 $*pPtr = *pPtr + 1$

1, 0, 3, 2, 5, 4, 7, 6, 9, 8

```
printf("**pPtr= %d\n", **pPtr);
printf("ptr[i]= ");
for (i = 0; i < 10; ++i)
    printf("%d ", *ptr[i]);
printf("\na[i]= ");
for (i = 0; i < 10; ++i)
    printf("%d ", a[i]);
```

Answer:

***pPtr = 1*
ptr[i] = 0123456789
a[i] = 1032547698

-10