

EX 1 MON 2/25

FARMER WANTS TO BUY 1000 ANIMALS EXACTLY

" " " SPEND \$1000 EXACTLY

COWS \$5, PIGS \$3 HENS \$.50

WHAT COMBINATION OF ANIMAL MAY FARMER BUY?

$$C + P + H = 1000$$

$$5C + 3P + .5H = 1000$$

```
for (c=0; c<=1000; c++)  
{  
  for (p=0; p<=1000; p++)  
  {  
    for (h=0; h<=1000; h++)  
    → printf("c=%d, p=%d, h=%d\n", c, p, h);  
  }  
}
```

```
1 // Farmer problem
2 // Farmer wants to buy 10000 animals and
3 // spend exactly $10000.
4 // Cows cost $5, Pigs $3, Hens $.50
5 // Write a program to calculate possible
6 // combinations of cows, pigs, hens.
7
8 // NOTE - the "improvements" made involving
9 // c=c+2, and p=p+2 are NOT valid. I
10 // have restored them to original c++ and p++
11 // Running time of program in this form is
12 // about 70 seconds.
13
14 #define _CRT_SECURE_NO_WARNINGS
15 #include <stdio.h>
16
17 #define COWCOST 5
18 #define PIGCOST 3
19 #define HENCOST 0.5
20
21 int main()
22 {
23     int c, p, h;
24     for (c = 0; c <= 2000; c++)
25     {
26         for (p = 0; p <= 3333; p++)
27         {
28             for (h = 0; h <= 10000; h=h+2)
29             {
30                 if (c+p+h==10000)
31                 {
32                     if (c*COWCOST + p * PIGCOST + h * HENCOST == 10000)
33                         printf("%d %d %d\n", c, p, h);
34                 }
35             }
36         }
37     }
38     return 0;
39 }
```

#1 Stars

```
for (r=0; r<4; r++)  
{
```

// r = 1 r <= 4

```
  for (c=0; c<6; c++)
```

// c = 1; c <= 6

```
    printf("*");
```

```
  printf("\n");
```

```
}
```

	r	#Sp	#*
* * * * *	0	0	5
* * * *	1	1	4
* * *	2	2	3
* *	3	3	2
*	4	4	1

```
for (r=0; r<5; r++)  
{
```

```
  // print spaces
```

```
  for (s=0; s<r; s++)
```

```
    printf(" ");
```

```
  // print *  
  for (a=0; a < 5-r; a++)
```

```
    printf("*");
```

```
  // print \n
```

```
  printf("\n");  
}
```

$## = -r + 5$

$m = -1$

$b = 5$