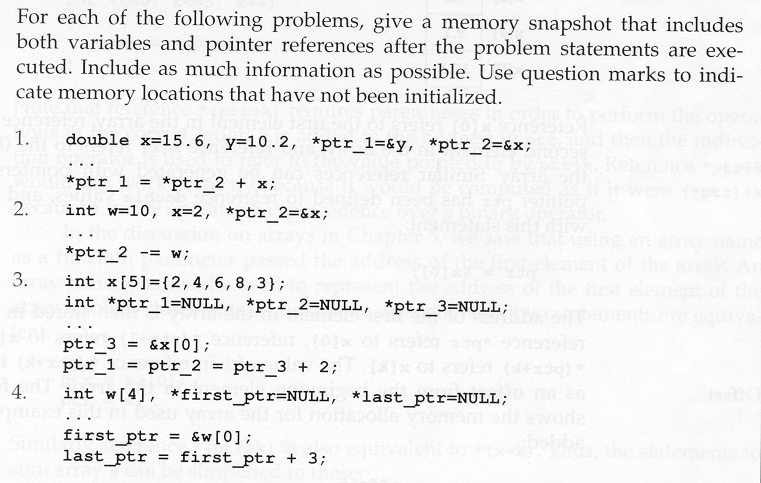
**Exercise Weeks 6/7\_6 (Initializing Pointers)**



Notation for memory snapshot:

contents

identifier

Memory address

1. double x=15.6, y=10.2, \*ptr\_1=&y, \*ptr\_2=&x;

ptr\_2

x

y

ptr\_1

?

&x

&y

?

10.2

&y

&x

15.6

\*ptr\_1 = \*ptr\_2 + x;

ptr\_2

x

y

ptr\_1

?

&x

&y

?

31.2

&y

&x

15.6

1. int w=10, x=2, \*ptr\_2=&x;

w

x

ptr\_2

&x

?

2

&x

&w

10

\*ptr\_2 -= w;

w

x

ptr\_2

&x

?

-8

&x

&w

10

1. int x[5] = {2,4,6,8,3}

int \*ptr\_1=NULL, \*ptr\_2=NULL, \*ptr\_3=NULL;

X[4]

x+4

3

X[3]

8

X[2]

6

X[1]

4

X[0]

2

x

x+1

x+2

x+3

ptr\_1

ptr\_2

ptr\_3

NULL

?

NULL

?

?

NULL

ptr\_3 = &x[0];

ptr\_1 = ptr\_2 = ptr\_3 + 2;

X[4]

x+4

3

X[3]

8

X[2]

6

X[1]

4

X[0]

2

x

x+1

x+2

x+3

ptr\_1

ptr\_2

ptr\_3

x

?

x+2

?

?

x+2

1. int w[4], \*first\_ptr=NULL, \*last\_ptr=NULL;

w[3]

?

w[2]

?

w[1]

?

w[0]

?

w

w+1

w+2

w+3

NULL

?

?

NULL

last\_ptr

first\_ptr

first\_ptr = &w[0];

last\_ptr = first\_ptr + 3;

w[3]

?

w[2]

?

w[1]

?

w[0]

?

w

w+1

w+2

w+3

w

?

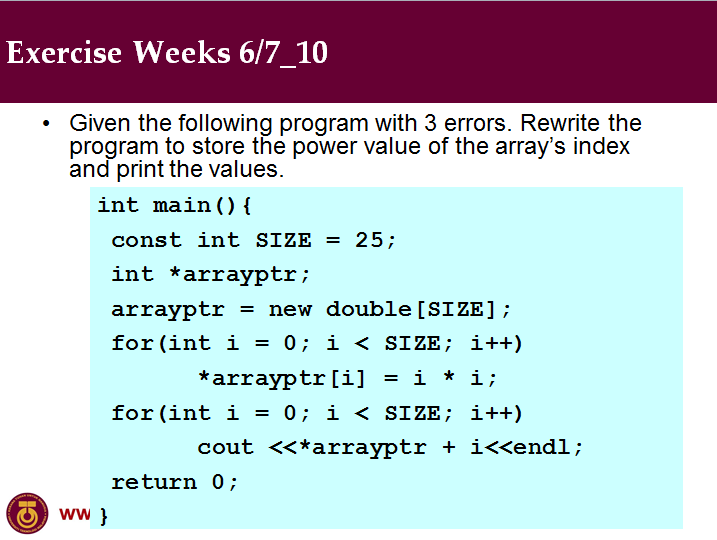
?

w+3

last\_ptr

first\_ptr

**Exercise Weeks 6/7\_10 (Dynamic Memory Allocation)**



int main () {

const int SIZE = 25;

int \*arrayptr;

arrayptr = new int[SIZE];

for(int i = 0; i < SIZE; i++)

arrayptr[i] = i \* i;

for(int i = 0; i < SIZE; i++)

cout << \*(arrayptr + i) << endl;

return 0;

}