```cpp
#include <iostream>
using namespace std;

int a1[12],
    a2[12],
    a3[12];
char einStr[]    = "Enter integer #";
char moStr[]     = "Max of ";
char ieStr[]     = " ints entered...";
char emiStr[]    = "Enter more ints? (n or N = no, others = yes) ";
char begA1Str[]  = "beginning a1: ";
char am1dA1Str[] = "a1 (dups<=1): ";
char procA1Str[] = "processed a1: ";
char procA2Str[] = "         a2: ";
char procA3Str[] = "         a3: ";
char dacStr[]    = "Do another case? (n or N = no, others = yes) ";
char dlStr[]     = "===============================";
char byeStr[]    = "bye...";

int main()
{
        char reply;
        int used1,
            used2,
            used3,
            truncAvg,
            found,
            sum,
            *hopPtr1,
            *hopPtr11,
            *hopPtr2,
            *hopPtr3,
            *endPtr1,
            *endPtr11,
            *endPtr2,
            *endPtr3;

        reply = 'y';
        goto W1Test;
//while (reply != 'n' && reply != 'N')
W1Test:    //{
        if(reply != 'n' && reply != 'N') goto beginW1;
        goto endW1;
beginW1:   //{
        used1 = 0;
        hopPtr1 = a1;
        goto W2Test;

//while (reply != 'n' && reply != 'N')
W2Test:    if(reply != 'n' && reply != 'N') goto beginW2;
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        goto endW2;

beginW2:   //{
        cout << einStr;
        cout << (used1 + 1);
        cout << ':' << ' ';
        cin >> *hopPtr1;
        ++used1;
        ++hopPtr1;
        goto I1;

///I1 = if (used1 < 12)
I1:        //{
        if(used1 >= 12) goto I1else;

        cout << emiStr;
        cin >> reply;
        goto endI1;
        //}
//I1 else
I1else:     //{
        cout << moStr << 12 << ieStr << endl;
        reply = 'n';
        //}
        goto endI1;
        //}

endI1:
        goto W2Test;

endW2:
        cout << begA1Str;
        goto I2;
//I2 = if (used1 > 0)
I2:        //{
        if(used1 <= 0) goto endI2;
        hopPtr1 = a1;
        endPtr1 = a1 + used1;
        goto beginDW1;
//DW1 do
beginDW1:  //{
        cout << *hopPtr1 << ' ' << ' ';
        ++hopPtr1;
        goto DW1Test;
        //{
//DW1Test = while (hopPtr1 < endPtr1);
DW1Test:
        if(hopPtr1 < endPtr1) goto beginDW1;
        goto endDW1;
endDW1:
```

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            goto endI2;
            //{
endI2:
            cout << endl;
            goto I3;




//I3 = if (used1 > 1)
I3:         //{
            if(used1 <= 1) goto I3else;
            hopPtr1 = a1;
            endPtr1 = a1 + used1 - 1;
            goto W3Test;
//W3 = while (hopPtr1 < endPtr1)
W3Test:
            if(hopPtr1 < endPtr1) goto beginW3;
            goto endW3;

beginW3:    //{
            found = 0;
            endPtr2 = a1 + used1;

//F1 = for (hopPtr2 = hopPtr1 + 1; hopPtr2 < endPtr2; ++hopPtr2)
            hopPtr2 = hopPtr1 + 1;
            goto F1Test;
F1Test:
            if(hopPtr2 < endPtr2) goto beginF1;
            goto endF1;
beginF1:
            goto I4;
            //{
//I4 = if (*hopPtr2 == *hopPtr1)
I4:         //{
            if (*hopPtr2 != *hopPtr1) goto endI4;
            goto I5;
            //{
//I5 = if (found == 1)


I5:         //{
            if (found != 1) goto I5else;
            endPtr3 = a1 + used1;

//F2 = for (hopPtr3 = hopPtr2 + 1; hopPtr3 < endPtr3; ++hopPtr3)
            hopPtr3 = hopPtr2 + 1;
            goto F2Test;
F2Test:
            if(hopPtr3 < endPtr3) goto beginF2;
            goto endF2;
beginF2:    //{
```

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                *(hopPtr3 - 1) = *hopPtr3;
                ++hopPtr3;
                goto F2Test;
                //}
endF2:
                --used1;
                --endPtr1;
                --endPtr2;
                --endPtr3;
                --hopPtr2;
                goto endI5;
                //}
//I5 else
I5else:     //{
                ++found;
                goto endI5;
                //}
                //}
endI5:
                goto endI4;
endI4:
                ++hopPtr2;
                goto F1Test;
                //}
endF1:
                ++hopPtr1;
                goto W3Test;
                //}
endW3:
                cout << am1dA1Str;
                goto I6;

//I6 = if (used1 > 0)
I6:         //{
                if (used1 <= 0) goto endI6;
                hopPtr1 = a1;
                endPtr1 = a1 + used1;
                goto beginDW2;
//DW2 do
beginDW2:   //{
                cout << *hopPtr1 << ' ' << ' ';
                ++hopPtr1;
                goto DW2Test;
                //}
//DW2 = while (hopPtr1 < endPtr1);
DW2Test:
                if(hopPtr2 < endPtr1) goto beginDW2;
                goto endDW2;
                //}
endDW2:
```

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                goto endI6;
endI6:
                cout << endl;
                goto I7;


//I7 = if (used1 > 0)
I7:         //{
                if (used1 <= 0) goto endI7;
                sum = 0;
                hopPtr1 = a1 + used1 - 1;
                endPtr1 = a1;


                goto beginDW3;
//DW3 do
beginDW3:  //{
                sum += *hopPtr1;
                --hopPtr1;
                goto DW3Test;
                //}
//DW3 = while (hopPtr1 >= endPtr1);
DW3Test:
                if(hopPtr1 >= endPtr1) goto beginDW3;
                goto endDW3;
endDW3:
                truncAvg = sum / used1;
                used2 = 0;
                used3 = 0;
                hopPtr2 = a2;
                hopPtr3 = a3;
                endPtr1 = a1 + used1;


//F3 = for (hopPtr1 = a1; hopPtr1 < endPtr1; ++hopPtr1)
                hopPtr1 = a1;
                goto F3Test;
F3Test:
                if(hopPtr1 < endPtr1) goto beginF3;
                goto endF3;
beginF3:   //{
                goto I8;
                //I8 = if (*hopPtr1 != truncAvg)
I8:
                if (*hopPtr1 == truncAvg) goto endI8;
                goto I9;
                //{
//I9 = if (*hopPtr1 < truncAvg)
I9:         //{
                if (*hopPtr1 >= truncAvg) goto elseI9;
                *hopPtr2 = *hopPtr1;
                ++used2;
                ++hopPtr2;
```

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            goto endI9;
            //}
//I9 else
elseI9:     //{
            *hopPtr3 = *hopPtr1;
            ++used3;
            ++hopPtr3;
            goto endI9;
            //}
endI9:
            endPtr11 = a1 + used1;


//F4 = for (hopPtr11 = hopPtr1 + 1; hopPtr11 < endPtr11; ++hopPtr11)
            hopPtr11 = hopPtr1 + 1;
            goto F4Test;
F4Test:
            if(hopPtr11 < endPtr11) goto beginF4;
            goto endF4;
beginF4:    //{
            *(hopPtr11 - 1) = *hopPtr11;
            ++hopPtr11;
            goto F4Test;
            //}
endF4:
            --used1;
            --endPtr1;
            --hopPtr1;
            goto endI8;
            //}
endI8:
            ++hopPtr1;
            goto F3Test;
            //}


endF3:
            goto I10;



//I10 = if (used1 == 0)
I10:        //{
            if (used1 != 0) goto endI10;
            *(a1+ 0) = truncAvg;
            ++used1;
            goto endI10;
            //}
endI10:
            goto endI7;
endI7:
            goto I3else;
                    //}
```

```
            //}
//I3else
I3else:    //{
        hopPtr1 = a1;
        cout << am1dA1Str;
        cout << *hopPtr1;
        cout << endl;
        used2 = 0;
        used3 = 0;
        goto endI3;
        //}
endI3:
        cout << procA1Str;
        goto I11;
//I11 = if (used1 > 0)
I11:       //{
        if (used1 <= 0) goto endI11;
        hopPtr1 = a1;
        endPtr1 = a1 + used1;
        goto beginDW4;

//DW4 do
beginDW4:  //{
        cout << *hopPtr1 << ' ' << ' ';
        ++hopPtr1;
        goto DW4Test;
        //}
//DW4 = while (hopPtr1 < endPtr1);
DW4Test:
        if(hopPtr1 < endPtr1) goto beginDW4;
        goto endDW4;
endDW4:
        goto endI11;
        //}
endI11:
        cout << endl;
        cout << procA2Str;
        goto I12;


//I12 = if (used2 > 0)
I12:        //{
        if (used2 <= 0) goto endI12;
        hopPtr2 = a2;
        endPtr2 = a2 + used2;
        goto beginDW5;
//DW5 do
beginDW5:  //{
        cout << *hopPtr2 << ' ' << ' ';
        ++hopPtr2;
        goto DW5Test;
```

```
        //}
//DW5 = while (hopPtr2 < endPtr2);
DW5Test:
        if(hopPtr2 < endPtr2) goto beginDW5;
        goto endDw5;
        //}
endDw5:
            goto endI12;
endI12:
        cout << endl;
        cout << procA3Str;
        goto I13;




//I13 = if (used3 > 0)
I13:       //{
        if (used3 <= 0) goto endI13;
        hopPtr3 = a3;
        endPtr3 = a3 + used3;
        goto beginDW6;

//DW6 do
beginDW6:  //{
        cout << *hopPtr3 << ' ' << ' ';
        ++hopPtr3;
        goto DW6Test;
        //}
//DW6 = while (hopPtr3 < endPtr3);
DW6Test:
        if (hopPtr3 < endPtr3) goto beginDW6;
        goto endDW6;
endDW6:
        goto endI13;
        //}
endI13:
        cout << endl;

        cout << dacStr;
        cin >> reply;

        goto W1Test;
        //}
endW1:
        cout << dlStr << '\n';
        cout << byeStr << '\n';
        cout << dlStr << '\n';

        return 0;
}
```