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CS 31 Lec 1 Disc 1A

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Project 6

1a.)

int main()

{

int arr[3] = { 5, 10, 15 };

int\* ptr = arr;

\*ptr = 30;

\*(ptr + 1) = 20; // make sure to include parenthesis - \*x+1 -> (\*x)+1, not \*(x+1)

ptr += 2; // works, pointer is now pointing two int down the array

while (ptr >= arr)

{

cout << \*ptr << endl; // print values

ptr--; //make sure to subtract after so it prints a[2], a[1], a[0]

}

}

1b.)

void findMax(int arr[], int n, int\*& pToMax) //reference to the pointer so the pointer changes its address (also can use int \*\* to pass by pointer of the pointer)

{

if (n <= 0)

return; // no items, no maximum!

for (int i = 0; i < n; i++) //array starts from 0

{

if (arr[i] > \*pToMax)

pToMax = arr + i;

}

}

int main()

{

int nums[4] = { 5, 3, 15, 6 };

int\* ptr = nums; //need to be initialized

findMax(nums, 4, ptr);

cout << "The maximum is at address " << ptr << endl;

cout << "It's at position " << ptr - nums << endl; //the address of ptr doesn’t change -> need to pass by pointer or reference of the pointer itself

cout << "Its value is " << \*ptr << endl;

}

1c.)