Dynamic Memory Allocation

Section 10.8

Arrays

- Recall that when creating arrays, the size must be specified during compile time

- We cannot ask the user for the size of the array, then create an array of that size

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Dynamic Allocation

- It is possible to allow a program to create its own variable during run-time

- While the program is running, ask the computer to allocate enough memory to store the variable

- To do this, we use pointers and the `new` operator

Dynamic Allocation Example

```
int *pNum;

pNum = new int;

*pNum = 6;

delete pNum;
```

Dynamic Allocation of Arrays

```
int *pInt;

pInt = new int[100];

for(int i = 0; i < 100; i++)

{

  pInt[i] = 0;

}

delete [] pInt;
```

Using Pointers with Classes

- Create an object of class Time
- Create a pointer to an object of class time
- Call the function printStandard with the object that you created
- Call the function printStandard with the pointer that you created