

Work shift C++ program

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This project showcase some of my C++ concepts with respect to

- Objects
- Array pointers that grows Dynamically
- Basic Algorithms
- Call by references functions
- Memory management
- Use of header and cpp files

Two major objects are created:

1. **Time object:** holds a regular time with such hours and minutes. Its attributes are Hour and Minutes.
 - Default constructor and parameterized constructor
 - Getter and setter methods that are called by reference
 - Private wrapped function to wrap hours and minutes to their respective values (hours < 24, minutes < 60)
2. **WorkWeek object:** holds the start and end time of a work shift. Its attributes are two pointer arrays to Time objects (array references are stored in the stack memory, while the objects are stored in the heap memory); and two integers. One that stores the size of the array, and one that stores the current index of the array
 - Parameterized constructor and copy constructor. It creates a start and an end time array with the size of the parameter given. The copy constructor creates deep copies of the parameter given
 - It can add shifts by providing starting time, and duration of the shift
If the arrays are full when a new shift is trying to be added, the program will dynamically create two new arrays double the previous size, and will delete the previous arrays deeply to free memory accordingly
 - It produces the total amount of hours stored in its arrays