**Digital Watch**

* Digital Watch modes
* Alarm
* Timer
* Clock
* Stopwatch
* Timer functions

1. It counts decreasingly from any time consists of seconds, minutes, & hours, and the maximum amount of time is:
2. When the timer reaches 00h 00m 00s, it makes 4 beeps continuously until the user disable it manually
3. At every entry from the keypad, the system makes a small beep indicating the button is pressed.
4. To start the counter, or pause it, the user has to press on the button ‘#’, there are three cases the user can use that button at:

* the first case when the user entered the time he needs to count from, so as long there is a time in the counter, any time the user will press the button ‘#’, one press will start the counter, another one will pause the counter.
* the second case when the timer reaches zero and started to beep, so if the user pressed the button ‘#’ it will disable the beep, and allow any entered number, as once the timer is started as least once, it is not allowing any entered number into the timer.
* the third case when the user disabled the beep and the timer is ready again to any entered number to count down from, so at this case when the user presses the button ‘#’ nothing is happened at all.

1. If we want to clear the timer while it is running and counting down, we can press on a specific push button that will clear any entered number into the timer and will allow any entered number into the timer.
2. At pausing the screen will flash until the user restart the timer
3. If we go to any other mode except the timer, it will pause the timer until we come back to it any restart it again
4. The way the user enter the numbers into the timer is from right to left, so for every entry into the timer, the values of the timer will be swapped to the left by one element and the entered number will be put at the most right of the timer until he timer is full and the timer will not accept any entered number from the user, and if the user want to delete any entered number to the timer, he can press on the button ‘\*’ that will delete the last entered number, then swap the values of the timer to the right by one element

* Enter 1
* Enter 4
* Delete the last input
* Enter 3
* Enter 5
* So, if the user press ‘#’ it will count down from 1 minute and 35 seconds, down to zero then beep.

1. If the user entered the following numbers

* It will convert it into;
* As the maximum number of seconds is 59 second, and the maximum number minutes is 59 minutes, which mean that it will convert every 60 second into 1 minute, and every 60 minutes into 1 hour.
* Clock functions

1. It counts increasingly from the time that user entered to start from.
2. At every entry from the keypad, the system makes a small beep indicating the button is pressed.
3. To start the clock, or pause it, the user has to press on the button ‘#’, there are two cases the user can use that button at:

* the first case when the user entered the time he needs to count from, so any time the user will press the button ‘#’, one press will start the clock, another one will pause the clock.
* the second case when the clock is at zero, so at this case when the user presses the button ‘#’ nothing is happened at all.

1. If we want to clear the clock while it is running or when it is paused, we can press on a specific push button that will clear any entered number into the clock and will allow any entered number into the clock, as once the clock is started as least once, it is not allowing any entered number into the clock.
2. If we go to any other mode except the timer, it will not pause the clock.
3. At every hour is passed, the system will make 2 beeps.
4. The way the user add time into the clock is that it will start entering the time from the days followed by the months, followed by the years, followed by the hours, the minutes, and the seconds, and if the user want undo any entered number he can press on the button ‘\*’ that will delete the last entered number

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* So, if we cleared the clock, if will be as following:

00/00/00 00:00:00

* Enter 2

20/00/00 00:00:00

* Enter 2

22/00/00 00:00:00

* Enter 1

22/10/00 00:00:00

* Enter 1

22/11/00 00:00:00

* Enter 2

22/11/20 00:00:00

* Enter 1

22/11/21 00:00:00

* Delete the last input

22/11/20 00:00:00

* Delete the last input

22/11/00 00:00:00

* Enter 3

22/11/30 00:00:00

* Enter 0

22/11/30 00:00:00

* Enter 1

22/11/30 10:00:00

* Enter 1

22/11/30 11:00:00

* Stopwatch functions

1. It counts increasingly from zero.
2. At every entry from the keypad, the system makes a small beep indicating the button is pressed.
3. To start the stopwatch, or pause it, the user has to press on the button ‘#’, so any time the user will press the button ‘#’, one press will start the stopwatch, another one will pause the stopwatch.
4. At pausing the screen will flash until the user restart the stopwatch.
5. If we want to clear the stopwatch while it is running or when it is paused, we can press on a specific push button that will clear any entered number into the stopwatch and will stop the timer.
6. If we go to any other mode except the stopwatch, it will pause the stopwatch.