

# Alarm Clock Program Description

The Alarm Clock program is a simple yet functional utility that allows users to set an alarm for a specified number of seconds or a specific time of day. When the alarm goes off, the program plays a sound to notify the user. Additionally, the program allows the user to stop the alarm manually. This program can be useful for setting reminders, taking breaks, or any other activity where a timely notification is needed.

## Key Features:

**Set Alarm by Duration:** Allows users to set an alarm that will go off after a specified number of seconds.

**Set Alarm by Specific Time:** Users can set an alarm for a specific time of day (e.g., 2:30 PM).

**Sound Notification:** Plays a sound when the alarm time is reached to alert the user.

**Manual Stop:** Provides functionality to stop the alarm manually before the set time.

**User-Friendly:** Simple interface and easy to use.

## Implementation Details:

### User Input:

The program starts by asking the user whether they want to set an alarm by duration (in seconds) or by specific time.

### Setting Alarm by Duration:

The user inputs the number of seconds after which the alarm should ring.

The program calculates the target time by adding the specified duration to the current time.

### Setting Alarm by Specific Time:

The user inputs the specific time in HH:MM format.

The program calculates the time difference between the current time and the specified time to determine the duration.

## **Waiting for Alarm:**

The program uses a loop to keep checking the current time against the target time.

Once the target time is reached, the program plays an alarm sound.

## **Stopping the Alarm:**

The user can stop the alarm manually by providing input.