ALARM CLOCK PROJECT REPORT

Introduction:

The purpose of this project is to create a functional alarm clock using Python. The alarm clock allows the user to set a specific time for the alarm to go off, and also allows the user to choose a custom alarm sound. Additionally, the alarm clock includes a snooze feature that allows the user to temporarily postpone the alarm.

Packages:

The following packages are used in this project:

- **datetime:** This package is used to retrieve the current time and compare it to the user-specified alarm time.
- **time:** This package is used to add a delay between each iteration of the main loop, as well as for the snooze feature.
- **os:** This package is used to play the alarm sound.

Algorithm:

The general algorithm of the program is as follows:

1. Prompt the user to enter the desired alarm time in the format "HH:MM" and the path to the alarm song.
2. Start a loop that continually checks the current time.
3. When the current time matches the alarm time, the script plays the alarm song and prints "Wake up! Alarmsong is playing..." and breaks out of the loop.
4. Wait for user input if the user wants to snooze the alarm or turn it off.
5. If the user chooses to snooze, it will wait for the snooze time entered by the user and then play the alarm song again and print "Wake up! Alarmsong is playing...".
6. If the user chooses to turn off the alarm, it will print "Alarm turned off."

Sample Output:

```
Enter the alarm time (HH:MM): 06:30

Enter the path to the alarm song: /path/to/alarm_song.mp3

Wake up! Alarm song is playing...

Press 's' to snooze or 'x' to turn off the alarm: s

Enter snooze time in minutes: 5

Wake up! Alarm song is playing...
```

This sample output demonstrates the basic functionality of the alarm clock. The user is prompted to enter the alarm time and the path to the alarm song. The alarm goes off at 06:30 and plays the alarm song. The user decides to snooze the alarm for 5 minutes and the alarm goes off again after 5 minutes.

Conclusion:

In conclusion, the Alarm Clock project was a successful implementation of a functional alarm clock using python. The user can set the alarm time and alarm song, and snooze the alarm. This project can be further enhanced by adding more functionalities such as setting multiple alarms, setting alarm for specific days, etc.