Module **app**

app.py is the main python file used the power the flask application. It is responsible for managing inputs and outputs to the HTML template as well as controlling the use of the 'apicalls' file, creation of alarm instances, and scheduling of these alarms on multiple threads.

Functions

redirect_user() -> redirect
display_page() -> render_template
set_alarm(request) -> redirect
ring_alarm(Alarm)
delete_alarm(alarm, fin_ringing, scheduled) -> redirect
refresh_notifs -> list

Functions

`def redirect_user() -> redirect`

redirects the user to '/index' url
:return: redirect: sends the user to the correct required page

`def display_page() -> render_template`

Display page manages all requests pointing to the /index page for the flask application.
The main role is to check if alarms need to be created or deleted, or if notifications need deleting and to refresh notifications in order to pass up to date info into the template.
It returns a render template function which is responsible for displaying the page
:returns render_template: Renders a web page using the method from flask
:returns redirect: Redirects the user to a defined web page using the method from flask

`def set_alarm(req) -> redirect`

set_alarm takes in the request send by the HTML file when the form was submitted and is responsible for and scheduling the alarm. It returns a redirect to the index page so the user can continue using the application

:parameter req: A flask request is a data type that contains the data passed in with the URL when the request is made

:returns redirect: Redirects the user to a defined web page using the method from flask

```
def ring_alarm(alarm)
```
The ring_alarm function takes in ana alarm and is responsible for calling its ring() method and deleting itonce it has finished rining. As its called from the display_page function, it returns None, as the page will be redirected from the delete_alarm function.
:parameter alarm: the alarm sent in is an instance of an Alarm object
:returns None: Returns None as the delete_alarm function called from here is responsible to redirect the user.

```
def delete_alarm(alarm, fin_ringing, scheduled) -> redirect
```
The delete_alarm function makes sure all aspects of the alarm are deleted It removes the alarm from alarm_list, and the schedule from the sched_dict As well as cancelling the schedule if necessary and deleting the alarm instance. The user is then redirected to the /index page to continue using the application
:parameter alarm: this parameter is the string representation of an alarm object
:parameter fin_ringing: Boolean used to determine if the alarm in question has finished ringing or not
:parameter scheduled: Boolean used to determine if a shced entry has been made for this alarm
:returns redirect: Redirects the user to a defined web page using the method from flask

```
def refresh_notifs() -> list
```

Uses the apicalls module to return a list of the latest notifications, and if required the weather or covid data. The number of notifications and the decision to add weather and covid can be specified in the config file

:returns list: Returns a list of new notifications that have been updated from live data.