Workout Program

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1 Overview

A workout program that shows the times that you should exercise with a warmup period, intensity period, and a cooldown period. It is based on your current weight which is input to the program. If you are near your maximum weight, it will give you a reasonable or light workout. As you get to lighter weights the workouts will be a little longer.

2 Installing python

You can install python from https://www.python.org/downloads/ including on Windows 11

3 Code

```
#!/usr/bin/python3

import os
import sys
import time

def calc_seconds(range, percent):

        start_seconds, end_seconds = range

        final_seconds = ((1.0 - percent) * start_seconds) + (percent * end_seconds)

        return final_seconds

def strtime_fromseconds(total_seconds):

        section_seconds = int(total_seconds)

        min = int(section_seconds / 60)
        sec = section_seconds - (min * 60)

        result_str = str(min) + 'm ' + str(sec) + 's'

        return result_str

def percent_fromweight(weight_range, current_weight):

        weight_max, weight_min = weight_range

        weight_span = (weight_max - weight_min)

        percent = (weight_max - current_weight) / weight_span

        return percent

def show_arraydata(warmup_secs, middle_secs, cooldown_secs):

        str_warmupsecs = '{:.3f}'.format(warmup_secs)
```

```
        str_middlesecs = '{:.3f}'.format(middle_secs)
        str_cooldownsecs = '{:.3f}'.format(cooldown_secs)

        data_array = [ str_warmupsecs, str_middlesecs, str_cooldownsecs ]

        data_str = ''

        for seconds in data_array:
                data_str += (seconds + ' ')

        print('Workout parameters: [ ' + data_str + ']')

def main():

        weight_range = 220.0, 195.0

        warmup_range = 12 * 60, 15 * 60
        middle_range = 15 * 60, 25 * 60
        cooldown_range = 15 * 60, 20 * 60

        args = sys.argv[1:]

        weight_lbs = float(args[0])

        print('Using weight ' + str(weight_lbs) + 'lbs.')

        percent = percent_fromweight(weight_range, current_weight = weight_lbs)

        warmup_secs = calc_seconds(warmup_range, percent)
        middle_secs = calc_seconds(middle_range, percent)
        cooldown_secs = calc_seconds(cooldown_range, percent)

        show_arraydata(warmup_secs, middle_secs, cooldown_secs)

        print('Warmup: ' + strtime_fromseconds(warmup_secs))
        print('Intensity: ' + strtime_fromseconds(middle_secs))
        print('Cooldown: ' + strtime_fromseconds(cooldown_secs))

if __name__ == '__main__':
        main()
```

4 Adjusting the code

You will want to adjust the **weight_range** setting in the program which is the maximum weight to be considered, followed by the minimum weight.

You can set them to something like +5 and -5 lbs from your current weight, or +5 lbs and -10 lbs from your current weight.

5 Running the code

Use **chmod 755 workout.py** to set the permissions on the Python file.

You may need to edit it to adjust the path to the python3 program.

Run the program as **./workout.py 215.2** replacing the value with your current weight in lbs.