Task 2 : Python

**Question**: Write a RESTful service in Python that features the following endpoints. Try to apply general python best practices where applicable (i.e, imagine this will be a larger application later).

**i)** GET /fib/: Given a number, find all combinations of Fibonacci number that add up to that particular number.

**ii)** GET/health: Return health information about the service. Definition of »health check« is up to you.

**Solution** **Task 2. i)**

**Assumption made to solve the task:**

As the question says, for a given number, we need to come up with all **combinations** of Fibonacci numbers that add up to a given number. Since it is not explicitly mentioned that order of the Fibonacci numbers need be strictly followed, so I have **assumed** all the combinations of the Fibonacci numbers.

**For instance,**  If a user sends a API request to find the combinations of Fibonacci number for number “11”.

The response of the developed API is as follows:

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| --- |
| [[2, 5], [5, 2], [2, 2, 3], [2, 3, 2], [3, 2, 2]] |

The required response of API is as follows:

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| [[2, 5], [2, 2, 3]] |

**Solution** **Task 2. i)**

**“**Heartbeat” class (this is defined in main.py script) is responsible for the health status of the API. Here, it is **assumed** that the flask API is not available to accept requests between 12 AM to 3 AM (everyday). Except this time window, users are allowed to make the requests.

If API gets the request during between 12 AM to 3 AM then it is treated as a maintenance window and the following message is returned to the user.

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| 'health\_status': "API service is down and under maintenance. Please wait until 3 AM to make an API request." |

If API gets the request outside the maintenance window, then it is treated as a regular request and the following message is returned to the user.

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| --- |
| 'health\_status ': " Feel free to make the API requests to find the Fibonacci combinations" |