Clinivid Assignment

Suppose you are joining a company which is working on a social network, you'll working on profile part. Profile is basic, it displays name, a profile image, locations and a few followers. This social network has exactly one million users signed up. A profile JSON sample is given on the next page:

A profile JSON sample

```json
{
   "id":"73241232",
   "name":{
      "first":"Aamir",
      "middle":"Hussain",
      "last":"Khan"
   },
   "location":{
      "name":"Mumbai",
      "coords":{
      "long":72.872075,
      "lat":19.075606
      }
   },
   "imageId":"73241232.jpg",
   "followers":[{
      "id":"54543342",
      "imageId":"54543342.jpg",
      "name":{
                "first":"Anil",
                "middle":"",
                "last":"Kapoor"
      },
      "location":{
                "name":"Delhi",
                "coords":{
                        "long":23.23,
                        "lat":12.07
                }}
      },
      {
      "id":"12311334",
      "imageId":"12311334.jpg",
      "name":{
                "first":"Amit",
                "middle":"",
                "last":"Bansal"
      },
      "location":{
                "name":"Bangalore",
                "coords":{
                        "long":"",
                        "lat":""
                }}
      }]
}
```

Problem 1 (Theoretical):

A. Given that you have only 32MB of RAM available and the average profile image size is 100KB, therefore all the images can not fit in the RAM. **What is the best way you can think of to store these images on the hard disk drive?** (Assume that unlike RAM, hard drive has no space limitation).

B. Suppose each image has the same name as the person id, i.e., if person id is *23321123* the name of the profile image will be *23321123.jpg*. **What is the best way to get this image from the hard disk?** Assume ids and image names are unique and ids are 8-digit numbers, and the platform takes 4 byte to store the integers.

Problem 2 (Coding):

In some cases the browser doesn't support JavaScript so we end up sending the profile data as the following query string:

```
profile|73241232|<Aamir><Hussain><Khan>|<Mumbai><<72.872075><19.075606>>|73241
232.jpg**followers|54543342|<Anil><><Kapoor>|<Delhi><<23.23><12.07>>|54543342.
jpg@@|12311334|<Amit><><Bansal>|<Bangalore><<><>>|12311334.jpg
```

Your task is to generate the JSON by parsing the above query string, it should look like same as the JSON mentioned in the question.

Another example of the query string:

Ex:
```
profile|73241234|<Niharika><><Khan>|<Mumbai><<72.872075><19.075606>>|73241234.
jpg**followers|54543343|<Amitabh><><>|<Dehradun><<><>>|54543343.jpg@@|22112211
|<Piyush><><>||
```

Please observe that some of the fields are empty.

Instructions: There is no coding required for the first problem. Do not assume that you are allowed to use any cloud based solution like S3 or a NAS or any other resources hosted somewhere on the network/internet, or any third party library or software.

For the second problem you'll have to submit a program (in a language of your choice with instructions to run the program). Use github to upload the code and share the link.