Due Date: 15 May 2016

CSE102#HW11

You are a cryptologist at National Intelligence Organization. Secret agents successfully captured a database about cyber attackers which conveys possibly valuable information for avoiding future attacks. They have very little knowledge about captured data. It is known that it is a binary file consisting of exactly 1000 records of unknown C structure. Also, primitive data types used in structure can only be **char (1 Byte), int (4 Bytes), long long int (8 Byte), float(4 Bytes), double (8 Bytes)** and at the end of the each record there is a **double** variable which keeps average of all other data fields in that record. The maximum data fields in the structure can be 11 (including average field). Your duty is to decode the entire data written in the file.

For example, consider the following secret C structure;

```
Struct SecretData{
     char v1;
     float v2;
     double v3;
     int v4;
     long long int v5;
     int v6;

     double avg;
};
```

Records in the file (This is for explanation purposes, in the actual binary file all data will be binary and there will not be any spaces or newlines):

```
'a' 3.5 4.5  1 1 2 18.17
'0' 0.5 0.5  2 1 2 9.0
.
.
.
```

Write a function that takes a binary filename and output array parameter and returns the decoded data structure. You should return an array of integers (via output parameter) for the data types according to the following table:

char	**1**
int	**2**
long long int	**3**
float	**4**
double	**5**

In the above case, you should return: [1,4,5,2,3,2,-1-,1,-1,-1].

If input file is not exist return -1, or 0 on success.

Signature

```
int hwDecode(const char filename[], int arr_out[] );
```

Sample Usage
hwDecode (“data.bin”, arr_out);
Return Value
Status and C structure representation

#notes

- You should send only required function.
- The assignment must be your original work. Duplicate or very similar assignments are both going to be considered as cheating.
- Ask your questions via moodle.