

Name (PRINTED): _____

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name and time)

CMSC 106

Quiz #10

Fall 2007

```
#include <stdio.h>
#include <string.h>
#define MAX 20
```

```
typedef struct{
    char name[MAX];
    float weight;
    int age;
} Dog;
```

1. [10 pts.] Write an equals function that takes in exactly two dog parameters. The function should return 1 if and only if the two dog records passed in have all information exactly the same. Otherwise it should return 0.

```
int equals (Dog a, Dog b){
    int sameSoFar = 1;

    if(strcmp(a.name, b.name) != 0)
        sameSoFar = 0;
    else if(a.weight != b.weight)
        sameSoFar = 0;
    else if (a.age != b.age)
        sameSoFar = 0;

    return sameSoFar;
}
```

OR

```
int equals(Dog a, Dog b){
    return ((strcmp(a.name, b.name)==0)
        && (a.weight == b.weight)
        && (a.age == b.age));
}
```

```

#include <stdio.h>
#include <string.h>
#define MAX 20

typedef struct{
    char name[MAX];
    float weight;
    int age;
} Dog;

```

2. [10 pts.] Write a “read” function that is capable of filling exactly one dog record that is passed as a parameter in an appropriate way to be filled by this function. It will be filled based on what is typed in standard input (keyboard or input redirect). The function can assume that the information is typed in the correct order and format and that it will be available in standard input even without prompts to the user. The user will type the name on one line (that is terminated by a new line character, the user will then type the weight on the second line (again terminated by the new line character) and then the user will type the age on the third line.

For example the input could be:

```

Snoopy Dog
23.5
5

```

```

void readDog(Dog *dPntr){
    Dog tempD;
    fgets(tempD.name, MAX, stdin);
    tempD.name[strlen(tempD.name)-1]='\0';
    scanf("%f %d", &tempD.weight, &tempD.age);
    *dPntr = tempD;
}

```

```

#include <stdio.h>
#include <string.h>
#define MAX 20

typedef struct{
    char name[MAX];
    float weight;
    int age;
} Dog;

```

3. [10 pts] Write the main function that will use the functions you wrote for the previous questions on this quiz. The main function will create variable space as needed, prompt for two dogs to be typed by the user, fill two dog structures with information typed and print either “same dog” or “different dogs” (which ever message is appropriate for the two dogs read).

```

int main(){
    Dog first, second;
    printf("type info for two dogs:\n");
    readDog(&first);
    readDog(&second);
    if (equals(first, second))
        printf("same dog\n");
    else
        printf("different dogs\n");

    return 0;
}

```