

Exercise 1 Answers

Java for C programmers

Program listing

1. (a) Header file: Person.h

```
struct Person {
    char *name;
    int  age;
};

/* useful Java-like abbreviation for "char *" */
typedef char *String;

/* useful abbreviation for "struct Person *" */
typedef struct Person *PersonPtr;

void talk(PersonPtr p);
void commentAboutAge(PersonPtr p);
PersonPtr make_person(String aName, int anAge);
```

- (b) Source file: Person.c

```
#include <stdio.h>
#include "Person.h"

void talk(PersonPtr p) {
    printf("Hi, my name's %s\n",p->name);
    printf("and my age is %d\n", p->age);
}

void commentAboutAge(PersonPtr p) {
    if (p->age < 5) {
        printf("baby\n");
    }
    if (p->age == 5) {
        printf("time to start school\n");
    }
}

PersonPtr make_person(String aName, int anAge) {
    PersonPtr p = (PersonPtr)malloc(sizeof(struct Person));
    p->name = aName;
    p->age = anAge;
    return p;
}
```

```
int main() {  
  
    PersonPtr ls,wp;  
  
    ls = make_person("Luke Skywalker",34);  
    wp = make_person("Winston Peters",48);  
  
    talk(ls);  
    talk(wp);  
  
    return 0;  
}
```