

Palomar College
Computer Science &
Information Technology
CSCI 112 Programming Fundamentals I
Lab 6 – Pointers & Modular Programming

1. Write a program to dispense change. The user enters the amount paid and the amount due. The program determines how many dollars, quarters, dimes, nickels, and pennies should be given as change. Modular programming, pass by value, pass by reference, function definitions and main listed below must be used.

Function Specifications

getPaid

Precondition – paid and due are initialized to zero.

Postcondition – paid is greater than due, paid is less than 20 dollars.

makeChange

Precondition – paid is greater than due, paid is less than 20 dollars.

Postcondition – dollar, qtr, dime, nkl, pen are output parameters and with the correct values based on the change calculation. Input parameters are paid and due, therefore will not change.

printResults

Precondition – all input parameters will be accurate

Postcondition – results printed

```
void getPaid(float *paid, float *due);  
void makeChange(float paid, float due, int *dollar, int *qtr, int *dime, int *nkl, int *pen);  
void printResults(float paid, float due, int dollar, int qtr, int dime, int nkl, int pen);
```

```
void main()
```

```
{
```

```
    int dollar = 0, qtr = 0, dime = 0, nkl = 0, pen = 0;
```

```
    float paid = 0.0, due = 0.0;
```

```
    getPaid(&paid, &due);
```

```
    makeChange(paid, due, &dollar, &qtr, &dime, &nkl, &pen);
```

```
    printResults(paid, due, dollar, qtr, dime, nkl, pen);
```

```
}
```