Paige-David Peck

CPT 232

Final Exam

12/11/11

**Data Dictionary**

**Analysis**

Outputs: total\_grades, total\_average\_grades, average, total\_a, total\_b, total\_c, total\_d, total\_f

**Name** **Type** **Description**

grade\_letter char letter grade

grade\_num int inputted grade

average int average of valid grades

total\_grade\_averaged int total grades in average calculation, initialize to 0

total\_valid int total valid grades, initialize to 0

total\_grades int counter initialize to 0

total\_a int total A’s, initialize to 0

total\_b int total B’s, initialize to 0

total\_c int total C’s, initialize to 0

total\_d int total D’s, initialize to 0

total\_f int total F’s, initialize to 0

**Calculated Values**

total\_grades++

total\_grade\_averaged++

total\_valid += grade\_num

average = total\_valid / total\_grade\_averaged

total\_a ++

total\_b ++

total\_c ++

total\_d ++

total\_f ++

**Flowchart**

grade\_letter = grade\_num\_letter()

grade\_num = grade\_input()

while (grade\_num >= 0)

total\_grade\_averaged = 0,

total\_valid = 0,

total\_grades = 0,

total\_a = 0,

total\_b = 0,

total\_c = 0,

total\_d = 0,

total\_f = 0

Start

average = average\_calc()

final\_display()

if(grade\_letter == ‘A’

Stop

if(grade\_letter == ‘B’

total\_a ++

total\_b ++

if(grade\_letter == ‘C’

total\_c ++

if(grade\_letter == ‘D’

total\_d ++

total\_f ++

if (grade\_num > 0)

total\_grades++

total\_grade\_averaged++

total\_valid += grade\_num

grade\_num = grade\_input()

Return grade\_num

Input grade\_num

Passed in:

nothing

grade\_input()

if ( grade\_num >= 65 && grade\_num <= 70)

if ( grade\_num > 70 && grade\_num <= 80)

grade\_letter = ‘C’

grade\_letter = ‘B’

if ( grade\_num > 80 && grade\_num <= 90)

grade\_letter = ‘A’

if ( grade\_num > 90)

grade\_num\_letter()

Passed in:

grade\_num

Output grade\_letter

Output grade\_letter

Output grade\_letter

grade\_letter = ‘F’

grade\_letter = ‘D’

Output grade\_letter

Output grade\_letter

Return grade\_letter

Return average

average = total\_valid / total\_grade\_averaged

Passed in:

total\_valid

total\_grade\_averaged

average\_calc()

Passed in:

total\_grades, total\_grade\_averaged, average, total\_a, total\_b, total\_c, total\_d, total\_f

final\_display()

Display total\_grades, total\_grade\_averaged, average, total\_a, total\_b, total\_c, total\_d, total\_f

return