**Laney College**

**Computer Information Systems (CIS) Department**

**Programming Assignment Cover Sheet**

**Class: CIS26Fall2011**

**Name: KaChiLau**

**Email:** [**Nicokorin@hotmail.com**](mailto:Nicokorin@hotmail.com)

**Lab Number: Lab5**

**Exercise Number: Ex1**

**Actual Turn-in Date: November 08, 2011**

**Date of Emailing of Last Revision: November 07, 2011**

**Problem:**

**Exercise 1 – Functions**

(1) Write a C program that will ask for a floating-point value and then display the extracted positional digits for the integral and fractional(decimal) parts as described below.

(2) The program should display the output to screen as

**CIS 26 – C Programming**

**Classcode**

**Laney College**

**Your Name**

**Assignment Information --**

**Assignment Number: Lab 05,**

**Coding Assignment -- Exercise #1**

**Written by: Your Name**

**Submitted Date: Due Date**

You need to replace “**Your Name**” with your real name and “**Due Date**” with the specified due date.

The above result should come from a call to a function named as displayClassInfoYourName(), where YourName must be replaced by your first name and the initial of your last name.

(3) The program will then display the result given below.

**CIS 26 - C Programming**

**L43671**

**Laney College**

**KaChiLau**

**Assignment Information --**

**Assignment Number: Lab 05,**

**Coding Assignment -- Exercise #1**

**Written by: KaChiLau**

**Submitted Date: November 8, 2011**

**Calling to extractIntegralDigitVersion1Kachil() --**

**Enter a floating-point + [ENTER] : 735.246**

**Enter the integral positional digit : 3**

**The extracted integral digit at position 3 : 7**

**Calling to extractFractionalDigitVersion1KaChil() --**

**Enter a floating-point + [ENTER] : 1290.78435**

**Enter the Fractional positional digit : 2**

**The extracted Fractional digit at position 2 : 8**

**Enter a floating-point + [ENTER] : 1290.78435**

**Enter the integral positional digit : 2**

**Calling to extractIntegralDigitVersion2Kachil() --**

**The extracted integral digit at position 2 : 9**

**Enter a floating-point + [ENTER] : 735.246**

**Enter the Fractional positional digit : 3**

**Calling to extractFractionalDigitVersion2KaChil() --**

**The extracted Fractional digit at position 3 : 6**

Most of the above output should come from 2 calls to a function named as

extractIntegralDigitVersion1YourName(),

extractIntegralDigitVersion2YourName(),

extractFractionalDigitVersion1Yourname(),

extractFractionalDigitVersion2Yourname(),

Where YourName must be replaced by your first name and the initial of your last name.

The above functions should **return** the extracted digits and main() should generate additional and proper text display.

(4) Save the program as cis26Fall2011ClassCodeYourNameLab5CodeEx1.c.

**Code:**

/\*\*

\*Program Name: CIS26Fall2011L43671KaChiLauLab5Ex1.c

\*Discussion: Formatted Inputs

\*/

#include <stdio.h>

void displayClassInfoKachil(void);

int extractIntegralDigitVersion1KaChil(void);

int extractFractionalDigitVersion1KaChil(void);

int extractIntegralDigitVersion2KaChil(void);

int extractFractionalDigitVersion2KaChil(void);

int main () {

int klResult;

displayClassInfoKachil();

printf("Calling to extractIntegralDigitVersion1Kachil() -- \n");

klResult = extractIntegralDigitVersion1KaChil();

printf(" %d\n\n", klResult);

printf("\nCalling to extractFractionalDigitVersion1KaChil() -- \n");

klResult = extractFractionalDigitVersion1KaChil();

printf(" %d\n\n", klResult);

klResult = extractIntegralDigitVersion2KaChil();

printf(" %d\n\n", klResult);

klResult = extractFractionalDigitVersion2KaChil();

printf(" %d\n\n", klResult);

return 0;

}

void displayClassInfoKachil() {

printf("CIS 26 - C Programming\n");

printf("L43671\n");

printf("Laney College\n");

printf("KaChiLau\n");

printf("\n");

printf("Assignment Information --\n");

printf(" Assignment Number: Lab 05,\n");

printf(" Coding Assignment -- Exercise #1\n");

printf(" Written by: KaChiLau\n");

printf(" Submitted Date: November 8, 2011\n\n");

return;

}

int extractIntegralDigitVersion1KaChil() {

double klA;

int klB;

int klC;

printf(" Enter a floating-point + [ENTER] : ");

scanf("%lf", &klA);

printf(" Enter the integral positional digit : ");

scanf("%d", &klB);

if(klB == 1) {

klC = (((int) klA) / 1) % 10;

} else if (klB == 2) {

klC = (((int) klA) / 10) % 10;

} else if ( klB == 3) {

klC = (((int) klA) / 100) % 10;

}

printf(" The extracted integral digit at position %d : ", klB);

return klC;

}

int extractIntegralDigitVersion2KaChil() {

double klA;

int klB;

long long int klC;

printf("\nEnter a floating-point + [ENTER] : ");

scanf("%Lf", &klA);

printf("Enter the integral positional digit : ");

scanf("%d", &klB);

if(klB == 1) {

klC = (((int) klA) / 1) % 10;

} else if (klB == 2) {

klC = (((int) klA) / 10) % 10;

} else if ( klB == 3) {

klC = (((long int) klA) / 100) % 10;

} else if ( klB == 4) {

klC = (((long int) klA) / 1000) % 10;

} else if ( klB == 5) {

klC = (((long int) klA) / 10000) % 10;

}

printf("Calling to extractIntegralDigitVersion2Kachil() -- \n");

printf(" The extracted integral digit at position %d : ", klB);

return klC;

}

int extractFractionalDigitVersion1KaChil() {

long double klA;

int klB;

long long int klC;

printf(" Enter a floating-point + [ENTER] : ");

scanf("%Lf", &klA);

printf(" Enter the Fractional positional digit : ");

scanf("%d", &klB);

if(klB == 1) {

klC = ((int) (klA \* 10) % 10);

} else if (klB == 2) {

klC = ((int) (klA \* 100) % 10);

} else if ( klB == 3) {

klC = ((int) (klA \* 1000) % 10);

} else if ( klB == 4) {

klC = ((int) (klA \* 10000) % 10);

} else if ( klB == 5) {

klC = ((long int) (klA \* 100000) % 10);

}

printf(" The extracted Fractional digit at position %d : ", klB);

return klC;

}

int extractFractionalDigitVersion2KaChil() {

long double klA;

int klB;

long long int klC;

printf("\nEnter a floating-point + [ENTER] : ");

scanf("%Lf", &klA);

printf("Enter the Fractional positional digit : ");

scanf("%d", &klB);

if(klB == 1) {

klC = ((int) (klA \* 10) % 10);

} else if (klB == 2) {

klC = ((int) (klA \* 100) % 10);

} else if ( klB == 3) {

klC = ((int) (klA \* 1000) % 10);

} else if ( klB == 4) {

klC = ((int) (klA \* 10000) % 10);

} else if ( klB == 5) {

klC = ((long int) (klA \* 100000) % 10);

}

printf("Calling to extractFractionalDigitVersion2KaChil() -- \n");

printf(" The extracted Fractional digit at position %d : ", klB);

return klC;

}

**Output:**

CIS 26 - C Programming

L43671

Laney College

KaChiLau

Assignment Information --

Assignment Number: Lab 05,

Coding Assignment -- Exercise #1

Written by: KaChiLau

Submitted Date: November 8, 2011

Calling to extractIntegralDigitVersion1Kachil() --

Enter a floating-point + [ENTER] : 735.246

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The extracted integral digit at position 3 : 7

Calling to extractFractionalDigitVersion1KaChil() --

Enter a floating-point + [ENTER] : 1290.78435

Enter the Fractional positional digit : 2

The extracted Fractional digit at position 2 : 8

Enter a floating-point + [ENTER] : 1290.78435

Enter the integral positional digit : 2

Calling to extractIntegralDigitVersion2Kachil() --

The extracted integral digit at position 2 : 9

Enter a floating-point + [ENTER] : 735.246

Enter the Fractional positional digit : 3

Calling to extractFractionalDigitVersion2KaChil() --

The extracted Fractional digit at position 3 : 6

**Comment:**