Chapter#6: Setting-up and implementing void and value-returning functions – wk#10/11 in class/lab

**ALGORITHM WORKBENCH EXERCISE – working with void and value returning functions (TEAM OR GROUP WORK)**

1. Write a program that takes as input (both keyboard and/or from a data file) two integers and returns as output the sum of the two values.
2. Write a program that takes as input a “seed” value (an integer value to be used as the maximum range for generating random numbers) provided by the user. Based on the “seed” value the program should generate two integers and return the sum of the two values.
3. Write a program that takes as input two integers and returns as output the sum of the two values. The program provides a menu of choices for the user : 1. Keyboard input 2. File input and 3. Random numbers

HINT: use a switch statement with four cases. For example

CASE 1: getKeyboardInput ( …., …..) ; // function call using a void function with two outgoing parameters  
 sumValues\* ( ….. , …… , …….); // function call using a void function with two incoming parameters and one outgoing parameter  
 showResult ( ….. , …… , …….);// function call using a void function with three incoming parameters

\*sumValues may also be defined and implemented as a value returning function

The three programs must include void and/or value returning functions with proper documentation and comments within the functions. (Refer to Program format and style and handout on Function Documentation).

**See sample “functional decomposition” structure ...”hint” below …..**

//declare function prototypes here

int main(){

//declare variables  
 getInput(…………); //call statement..if using a void function   
 Add(………….); //call statement if using a void function   
 total=Add(………..); //expression if using a value-returning function  
 showResults(………); //call statement if using a void function  
 return 0;   
}  
//functions definitions

void getInput(/\*out\*/…………/\*out\*/……) //if using a void function  
 {  
 ………your code here  
 }

void Add (/\*in\*/……/\*in\*/……./\*out\*/…..)//if using a void function  
 {  
 ………your code here  
 }

int Add(/\*in\*/……/\*in\*/……)//if using a value-returning function  
 {  
 ………your code here  
 }

void showResult((/\*in\*/……/\*in\*/……./\*in\*/…..)  
 {  
 ………your code here  
 }

//program components to include for random //number generation. see also lesson notes  
//on Functions II on the class site

#include <iostream>  
**#include<ctime>  
#include<cstdlib>**

Int main()  
{

**srand(time(0));**

int num1,num2;  
int max\_range=10;  
int min\_range=2;

num1=**rand() % (max\_range+1);**  
num2=**rand() % (max\_range+1);**

//num1**=rand() % ((max\_range- min\_range)+1)+min\_range;**

cout<<num1<<" "<<num2<<endl ;

return 0;

}