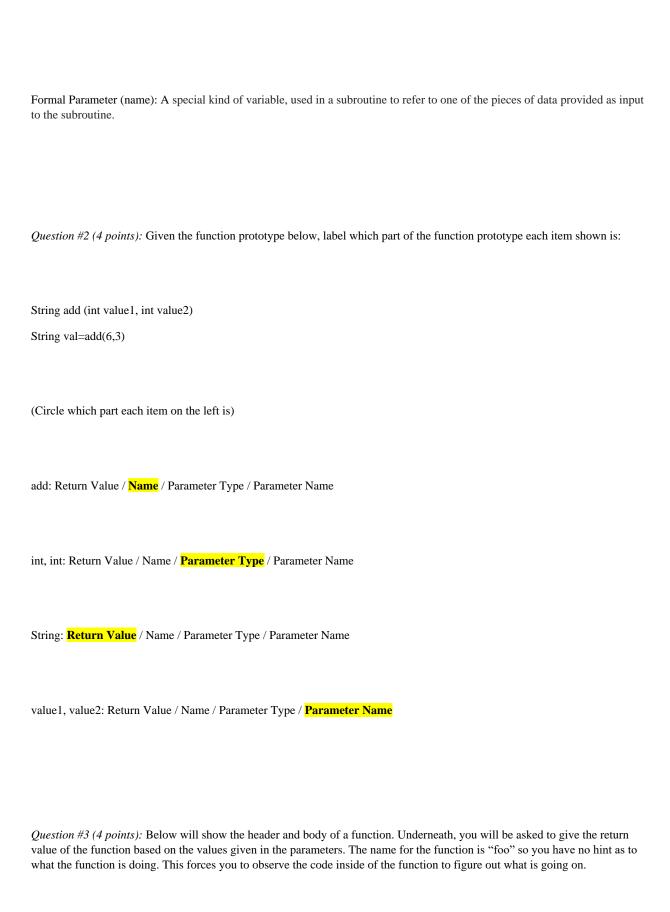# CSC 10A

Accelerated Introduction to Programming Logic

Lab

20 Points

Name:_____**Rifat Khan**_____

Functions

The purpose of this assignment is to give you practice in using functions, evaluating the code inside of a function, recognizing the parts of a function prototype (aka "function header"), and explaining what purpose each part of the function prototype serves.

Requirements

Answer the questions below for credit. (Show your work if applicable)

Question #1 (4 points): Next to each part of a function prototype listed below, describe what purpose it serves:

Return value: It's a value, variable or other information coming back from a source of data

Function name: A named section of a program that performs specific tasks

Formal Parameter (type): Different variables assigned to a subroutine

Formal Parameter (name): A special kind of variable, used in a subroutine to refer to one of the pieces of data provided as input to the subroutine.

Question #2 (4 points): Given the function prototype below, label which part of the function prototype each item shown is:

String add (int value1, int value2)

String val=add(6,3)

(Circle which part each item on the left is)

add: Return Value / **Name** / Parameter Type / Parameter Name

int, int: Return Value / Name / **Parameter Type** / Parameter Name

String: **Return Value** / Name / Parameter Type / Parameter Name

value1, value2: Return Value / Name / Parameter Type / **Parameter Name**

Question #3 (4 points): Below will show the header and body of a function. Underneath, you will be asked to give the return value of the function based on the values given in the parameters. The name for the function is "foo" so you have no hint as to what the function is doing. This forces you to observe the code inside of the function to figure out what is going on.

```
int foo (int n1, int n2){

   int ret = 0

   int i = 0

   for (i = 0 to n2 -1 STEP + 1){

     ret = ret + n1

   }

   return ret

}
```

Using the function above, answer what the return value is for the various versions of the function below (depending on the actual parameters given to it):

foo (3, 3) = 9

int foo (n1=3,n2=3)

for(0 to 2) {

ret=ret+3

}

For 0:

Ret=0+3

Ret=3

For 1:

Ret= 3+3

Ret=6

For 2:

Ret=6+3

Ret=9

Return ret; 9

foo (4, 2) = 8

Int foo(n1=4,n2=2)

For(0 to 1)

Ret=ret+4

}

For 0:

Ret=0+4

Ret=4

For 1:

Ret=4+4

Ret=8

foo (5, 4) = 20

Int foo(n1=5,n2=4)

For(0 to 3)

Ret=ret+5

}

For 0:

Ret=0 +5

Ret=5

For 1:

Ret=5+5

Ret=10

For 2:

Ret=10+5
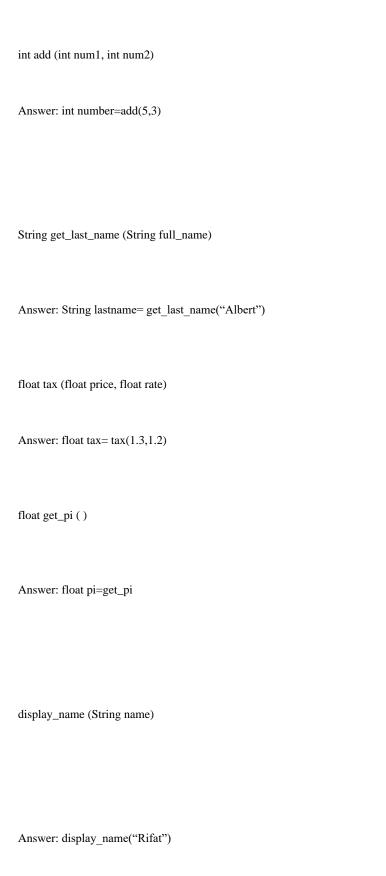
Ret=15

For 3:

Ret=15+5

Ret=20

foo (6, 3) =24

Int foo(n1=6,n2=3)

For(0 to 2)

Ret=ret +6

}

For 0:

Ret=0+6

Ret=6

For 1:

Ret=6+6

Ret=12

For 2:

Ret=12+6

Ret=18

For 3:

Ret=18+6

Ret=24

Question #4 (8 points): Given different function prototypes, write how you would use them in practice. "Use them" is defined as "calling" the function with the appropriate actual parameters (also called "arguments"), using the appropriate function name, and capturing any return values. You can use whatever values you want for the actual parameters as long as they are a compatible type with the formal parameters.

int add (int num1, int num2)

Answer: int number=add(5,3)

String get_last_name (String full_name)

Answer: String lastname= get_last_name("Albert")

float tax (float price, float rate)

Answer: float tax= tax(1.3,1.2)

float get_pi ( )

Answer: float pi=get_pi

display_name (String name)

Answer: display_name("Rifat")

boolean is_number_odd (int number)

Answer: boolean odd= is_number_odd(9)

code_block ( )

Answer:

String divide (int num1, int num2)

Answer: string divide=divide(8,4)

Submission

Submit this assignment on Canvas by the due date for credit.

If you have any questions, let me know.