UMUC

UNIVERSITY of MARYLAND UNIVERSITY COLLEGE

CMIS 102 Function Practice

Here are some problems to help you practice your understanding of pseudo-coded functions, and coding those functions in C++.

1. Here is a function header, identify the following items:

```
integer getLargest (int x, int y, int z)
```

   a. The function name
   b. The function return type
   c. The function parameter names
   d. The function parameter types

2. Here is a function header, identify the following items:

```
double average (int a, int b, int m, int n)
```

   a. The function name
   b. The function return type
   c. The function parameter names
   d. The function parameter types

3. Here is a function header, identify the following items:

```
double temperature (double latitude,
        double longitude)
```

   a. The function name
   b. The function return type
   c. The function parameter names
   d. The function parameter types

4. Here is a function header, identify the following items:

```
boolean found (String name, String address,
        Date birthday)
```

   a. The function name
   b. The function return type
   c. The function parameter names
   d. The function parameter types

5. Here is a function header, identify the following items:

```
String getCountry (String name,
        String address, Date birthday)
```

   a. The function name
   b. The function return type
   c. The function parameter names
   d. The function parameter types

6. Given the following function declaration, fill in the body so that the function will return 5 times the first parameter plus 3 times the second

```
double funOne (double x, double y)
   // your code here
   return z
end function funOne
```

7. Given the following function declaration, fill in the body so that the function will return 5 times the parameter squared plus 22.7 times the parameter minus 17.6

```
double funTwo (double x)
   // your code here
   return z
end function funTwo
```

8. Given the following function declaration, fill in the body so that the function will return the sum of the integers between the first and second parameters, inclusive. You may assume that the first parameter is less than the second.

```
int funThree (int m, int n)
   // your code here
   return a
end function funThree
```

9. Given the following function declaration, fill in the body so that the function will return the greatest common divisor of the two parameters. You may assume that the parameters are both greater than 0.

```
int funFour (int a, int b)
   // your code here
   return z
end function funFour
```

10. Given the following function declaration, fill in the body so that the function will return the product of the integers between the two parameters, inclusive. You may assume that the first parameter is less than the second.

```
int funFive (int m, int n)
   // your code here
   return z
end function funFive
```

11. Given the following function declaration, fill in the body so that the function will return the sum of the squares of the integers between the two parameters, inclusive. You may assume that the first parameter is less than the second.

```
int funSix (int x, int y)
   // your code here
   return z
end function funSix
```

12. Given the following function declaration, fill in the body so that the function will write a line of stars, wth the number of stars given by the parameter. Assume that the parameter is greater than 0.

```
void funSeven (int x)
   // your code here
end function funSeven
```

13. Given the following function declaration, fill in the body so that the function will return true if the parameter is a multiple of 7. You may assume that the parameters is greater than 0.

```
boolean funEight (int x)
   // your code here
   return z
end function funEight
```

14. What is the output of the following function call, given the function shown after main?

```
main
    write nufOne (10)
end main

int nufOne (int n)
   int z = 2*n*n*n + 7*n*n + 4*n + 8
   return z
end function nufOne
```

15. What is the output of the following function call, given the function shown after main?

```
main
    write nufTwo (16)
end main

int nufTwo (int n)
   int z = 2*n*n*n + 7*n*n + 4*n + 8
   return z
end function nufTwo
```

16. What is the output of the following function call, given the function shown after main?

```
main
    int n
    for n = 1 step 3 to 9
       write n, ": ", nufThree (n)
    end for
end main

int nufThree (int k)
   int z = 2*k + 7
   return z
end function nufThree
```

17. What is the output of the following function call, given the function shown after main?

```
main
   nufFive (1, 3, 12)
end m

void nufFive (int a, int b, int c)
    int n
    for n = a step b to c
       write n, ": ", nufFour (n)
    end for
end nufFive

int nufFour (int k)
   int z = 2*k + 7
   return z
end function nufFour
```

18. What is the output of the following function call, given the function shown after main?

```
main
    int n
    for n = 1 step 2 to 10
       nufSix ()
    end for
    write newLine
end main

void nufSix ()
    write "*" // no new line here
end nufFive
```

19. What is the output of the following function call, given the function shown after main?

```
main
    int n, m
    for n = 1 step 2 to 10
       nufSix ()
    end for
    write newLine
    for m = 3 step 4 to 12
       nufSix ()
    end for
    write newLine
end main

void nufSix ()
    write "*" // no new line here
end nufFive
```

20. What is the output of the following function call, given the function shown after main?

```
main
    int n, m
    for n = 1 step 2 to 10
       for m = 3 step 4 to 12
          nufSix ()
       end for
       write newLine
       nufSix ()
    end for
    write newLine
end main

void nufSix ()
    write "*" // no new line here
end nufFive
```

21. What is the output of the following function call, given the function shown after main?

```
main
    int n, m
    for n = 1 step 2 to 10
       for m = 3 step 4 to 12
          nufSix ()
          write newLine
          nufSix ()
       end for
    end for
    write newLine
end main

void nufSix ()
    write "*" // no new line here
end nufFive
```