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[CPSC 230]

Chapter 4- Homework

Note: Submit your homework document in the inbox (chapter 4 HW).

Part 1: (15pts.) Write the functions below and include them in your own header library: (save your functions as name. h and include this library before your main program as "name.h")

Write a test program to test all these functions. Show the output of the testing program

```
//CPSC 230 RAVI PATEL CH 4 HW Q1
//name.h
#include <iostream>
using namespace std;

double max1(double a, double b){
     if (a > b)
          cout<<"Maximum value: "<<a<<endl;
     else
          cout<<"Maximum value: "<<b<<endl;
     return 0;
}
bool islower1(char a){
     if (islower(a))
          cout<< true<<" - Character is lower case!"<<endl;
     else
          cout<< false<<" - Character is upper case!"<<endl;
     return 0;
}
bool isprime1(int a){
     bool isPrime = true;
     int i;

     for(i = 2; i <= a / 2; ++i)
     {
               if(a % i == 0)
               {
                         isPrime = false;
                         break;
               }
     }
     if (isPrime)
               cout<< true<<" - This is a prime number!"<<endl;
     else
               cout<< false<<" - This is not a prime number!"<<endl;

     return 0;
}
```

```
//CPSC 230 RAVI PATEL CH 4 HW Q1
//main.cpp
#include <iostream>
#include "name.h"
using namespace std;

int main()
{
     max1(125,239); //return max value of the two numbers
     islower1('a'); //return 1 if lower case, 0 if upper case
     islower1('B'); //return 1 if lower case, 0 if upper case
     isprime1(29); //return 1 if prime number, 0 if not prime number
     isprime1(12); //return 1 if prime number, 0 if not prime number
     return 0;
}
```

```
//SAMPLE OUTPUT:
//Maximum value: 239
//1 - Character is lower case!
//0 - Character is upper case!
//1 - This is a prime number!
//0 - This is not a prime number!
```

Part 2: (5 pts) choose the correct answer:

1.
```
int divide (int a, int b=2)
{
  int r;
  r=a/b;
  return (r);
}

int main ()
{
  cout << divide (12) << '\n';
    return 0;
}
```
a. 12
b. 6
c. error

2. What is the value of the following?
floor(4.999) + ceil(2.0)
a. 6.999
b. 7.0
c. 6.0
d. 8.0

3. Which of the following are valid function calls to the pow function?
a. pow(int x, int y);
b. pow(1.1, 3.0);
c. double pow(1.1, 3.0);

4. Which of the following are not legal function declarations?
a. int ave3(int a, int b, int c);
b. int 3ave(int a, int b, intc);
c. int ave3(int, int, int);
d. int ave_3(int a1, int a2, int a3);

5. When a variable is local to a function, we say that it has ___ of the function
a. value
b. constance
c. scope
d. locality

PART 2 ANSWERS: 1. B 2. C 3. B 4. B 5. C