**CISS240: Introduction to Programming**
**Quiz q0803**

Name: YOUR EMAIL Score:

This is a closed-book, no compiler, 5 minute quiz.

Q1. What is the value of `x` if `i` is 2 and `j` is 3:

```
int x = (1 < i && j > 3 ? i + 1 : j + 1);
```

Answer:

Q2. Rewrite the following without if-else. (Use ternary operator.)

```
if (a < b + c)
{
    x = i + j;
}
else
{
    x = i - j;
}
```

Answer:

Q3. Rewrite the following code fragment without if-else. (Use ternary operators.)
Answer:

```
int die0 = rand() % 6 + 1;
int die1 = rand() % 6 + 1;
int gain = 0;
if (die0 > 2)
{
    gain = gain + 1;
}
else
{
    gain = gain - 1;
}
if (die0 == die1)
{
    gain = gain + 1;
}
```

```
else
{
    gain = gain - 1;
}
if (die0 == 6 && die1 == 6)
{
    gain = gain + 2;
}
```

Q4. The following code fragment is wrong. Fix it!
Answer:

```
int die0 = rand() % 6 + 1;
int die1 = rand() % 6 + 1;
if (die0 == die1 == 6)
{
    std::cout << "double 6!!!\n";
}
```

(Why is it wrong? Initialize both variables to 6 and see what happens. Why? Restudy boolean notes if you don't see the error immediately!)

## Instructions

In the file `thispreamble.tex` look for

```
\renewcommand\AUTHOR{}
```

and enter your email address:

```
\renewcommand\AUTHOR{jdoe5@cougars.ccis.edu}
```

(This is not really necessary since alex will change that for you when you execute `make`.) In your bash shell, execute "`make`" to recompile `main.pdf`. Execute "`make v`" to view `main.pdf`.

Enter your answers in `main.tex`. In the bash shell, execute "`make`" to recompile `main.pdf`. Execute "`make v`" to view `main.pdf`.

For each question, you'll see boxes for you to fill. For small boxes, if you see

```
1 + 1 = \answerbox{}.
```

you do this:

```
1 + 1 = \answerbox{2}.
```

`answerbox` will also appear in "true/false" and "multiple-choice" questions.

For longer answers that need typewriter font, if you see

```
Write a C++ statement that declares an integer variable name x.
\begin{answercode}
\end{answercode}
```

you do this:

```
Write a C++ statement that declares an integer variable name x.
\begin{answercode}
int x;
\end{answercode}
```

`answercode` will appear in questions asking for code, algorithm, and program output. In this case, indentation and spacing is significant. For program output, I do look at spaces and newlines.

For long answers (not in typewriter font) if you see

```
What is the color of the sky?
\begin{answerlong}
\end{answerlong}
```

you can write

```
What is the color of the sky?
\begin{answerlong}
The color of the sky is blue.
\end{answerlong}
```

A question that begins with "T or F or M" requires you to identify whether it is true or false, or meaningless. "Meaningless" means something's wrong with the question and it is not well-defined. Something like "$1 + 2 = 4$" is either true or false (of course it's false). Something like "$1+_2 = 4$?" does not make sense.

When writing results of computations, make sure it's simplified. For instance write 2 instead of $1 + 1$.

Higher level classes.

For students beyond 245: You can put LaTeX commands in `answerlong`.

More examples of meaningless statements: Questions such as "Is $42 = 1+_2$ true or false?" or "Is $42 = \{2\}^{\{3\}}$ true or false?" does not make sense. "Is $P(42) = \{42\}$ true or false?" is meaningless because $P(X)$ is only defined if $X$ is a set. For "Is $1 + 2 + 3$ true or false?", "$1 + 2 + 3$" is well–defined but as a "numerical expression", not as a "proposition", i.e., it cannot be true or false. Therefore "Is $1 + 2 + 3$ true or false?" is also not a well-defined question.

More examples of simplification: When you write down sets, if the answer is $\{1\}$, do not write $\{1, 1\}$. And when the values can be ordered, write the elements of the set in ascending order. When writing polynomials, begin with the highest degree term.

When writing a counterexample, always write the simplest.