Solution to Homework 4
(your name here)
March 18, 2015

1 My project

I have written . . . for my course in . . .

2 Testing the integration functions

I started with `integrate6.py`, the last version we saw in class. I copied it to `integrate7.py` and added this code:

```
113 def test_reverse_limits():
114     print("test to see that integrals are correct when t < b")
115
116 def test_negative_values():
117     print("test to see that functions with negative values integrate correctly")
118
119 if __name__ == '__main__':
120     print("testing module " + sys.argv[0])
121     test_reverse_limits()
122     test_negative_values()
```

which produces this output:

```
myshell> python integrate7.py
testing module integrate7.py
test to see that integrals are correct when t < b
test to see that functions with negative values integrate correctly
```

Then I added real tests to those stubs.
Here's what worked . . .
Here's what needed fixing . . .
Here's how I fixed things . . .

3 Finding all the prime factors

4 Finding all the factors

5 Maybe more

Here is the LaTeX source for this document. You can cut it from the pdf and use it to start your answers. I used the `\jobname` *macro for the source file name, so you can call your file by any name you like.*

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% template for hw4 solution
% Math 480 Spring 2015
%
% No need to read or understand anything before the comment line below
% marked
% %%%%%%%%%%%%%%% start here %%%%%%%%%%%%%%%

\documentclass[10pt]{article}
\usepackage[textheight=10in]{geometry}

\usepackage{verbatim}
\usepackage{amsmath}
\usepackage{amsfonts} % to get \mathbb letters

\usepackage[utf8]{inputenc}
\DeclareFixedFont{\ttb}{T1}{txtt}{bx}{n}{9} % for bold
\DeclareFixedFont{\ttm}{T1}{txtt}{m}{n}{9}  % for normal
% Defining colors
\usepackage{color}
\definecolor{deepblue}{rgb}{0,0,0.5}
\definecolor{deepred}{rgb}{0.6,0,0}
\definecolor{deepgreen}{rgb}{0,0.5,0}

\usepackage{listings}

%Python style from
%http://tex.stackexchange.com/questions/199375/problem-with-listings-package-for-python-syntax-color
\newcommand\pythonstyle{\lstset{
  language=Python,
  backgroundcolor=\color{white}, %%%%%%%
  basicstyle=\ttm,
  keywordstyle=\ttb\color{deepblue},
  emph={MyClass,__init__},
  emphstyle=\ttb\color{deepred},
  stringstyle=\color{deepgreen},
  commentstyle=\color{red},  %%%%%%%%
  frame=tb,
  showstringspaces=false,
  numbers=left,numberstyle=\tiny,numbersep =5pt
}}

\usepackage{hyperref}

\begin{document}

\pythonstyle{}

%%%%%%%%%%%%%%% start here %%%%%%%%%%%%%%%
\begin{center}
\Large{
Solution to Homework 4 \\
(your name here) \\
\today
}
\end{center}
```

```
\section{My project}

I have written \ldots for my course in \ldots

\section{Testing the integration functions}

I started with \lstinline!integrate6.py!, the last version we saw in
class. I copied it to \lstinline!integrate7.py! and added this code:

\lstinputlisting[firstnumber=113,firstline=113,lastline=122]{integrate7.py}

which produces this output:

\begin{verbatim}
myshell> python integrate7.py
testing module integrate7.py
test to see that integrals are correct when t < b
test to see that functions with negative values integrate correctly
\end{verbatim}

Then I added real tests to those stubs.

Here's what worked \ldots

Here's what needed fixing \ldots

Here's how I fixed things \ldots

\section{Finding all the prime factors}

\section{Finding all the factors}

\section{Maybe more}

\newpage
\emph{
Here is the \LaTeX{} source for this document. You can cut it from the
pdf and use it to start your answers. I used the} \verb!\jobname!
\emph{macro for the source file name, so you can call your file by any
  name you like.}
\verbatiminput{\jobname}

\end{document}
```