University of South Australia
Division of STEM

Engineering Dynamics (MENG XXXX)

Assessment 1 - Practical Report

A study into things that go Brrrr Pop Pop Skeeeeet — wotup.

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Disclaimer

I declare the following to be my own work, unless otherwise referenced, as defined by the University's policy on plagarism.

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Abstract

Heres goes an Abstract. The objective of the abstract is to outline the overall project and should be written last. ;) :)

Table Of Contents

1 Introduction

Write Introduction $\mathbb{RICZ}$

2 Background

|—+ This is the background or whatever +—|

2.1 First Principles

Write some things

2.2 Second Princples

Write some thangs.

2.2.1 Second and a half Principles

Write some Thungs.

3 Section 1: Results

Feel free to change this up however.
(Harris 2004) Cite P is for citation of a **P**aragraph.
Harris (2021) Cite T is for an inline **T**ext citation.

4 Just a new section to input some colour blocks

Question 1:

For all x, determine the coefficients in the FIR filter that result in a filter that performs as you'd expect a FIR filter to work.

Answer 1:

Yo Shawty, that jacket is tighhht son, yaaah meaaan. Right, left, Right, left Hughhhh sonn Hughhh. Right, left, right, left Hughh sonn Hughh.

Example 1:

I am a world before I am a Man. I was a creature before i could stand. I will remember before i forget. BEFORE I FORGET;

Example Codeblock for MATLAB

Here is some example code you might like to work with; this code does nothing important :) :) :) :) :) :) :)

Listing 1 shows an interesting example of code within matlab.

Listing 1: MATLAB sample

```
%% displaying some quantisation error
signedness=1;   % 1=signed, 0=unsigned;
intbits=5;      % 2^5   = 32
fractbits=1;   % 2^-10 =
wordLen=signedness+intbits+fractbits
q = fixed.Quantizer(signedness,wordLen,fractbits, ...
  'Nearest','Saturate')

for x=0:1:20
  sin(x)+1
end

t=0:.01:100;
x=(10*sin(t)).*(3*cos(2*t));
x_f = fi(x,signedness,wordLen,fractbits);


%{
  This is just a multiline
  comment to see this command works
%}
```

Example Codeblock for Python

In listing 2 the python language pack for listing is explored.

Listing 2: Python Sample

```
string1 = "Kane"
string2 = "O'Brien"
joined_string = string1 + string2
print(joined_string)
number = 70
# Check the is more than 70 or not
if (number >= 70):
    print("The number is atleast 70")
else:
    print("The number is less than 70")
```

5 References

Harris, FJ 2004, *Multirate Signal Processing for Communication Systems*, 1st edn., Prentice Hall PTR, Upper Saddle River, New Jersey.

Harris, FJ 2021, *Multirate Signal Processing for Communication Systems*, 2nd edn., River Publishers, Gistrup, Denmark.