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.

Student:
Kane O'BRIEN (OBRKW001)
ID: 110268293

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Supervisors:
Dr. ABCD EFGH
Dr. XYZ ABC

University of
South Australia

# Disclaimer

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

Kane O'Brien (110268293)

# 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

```matlab
%% 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

```python
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.