$\underset{\mathit{JC}}{\operatorname{Notes}}$

Why?

Save some time. Quick & Dirty model diagnostic plots in ggplot.

Plan

1. Redo base plots in ggplot

```
par(mfrow=c(2,3))
lm.1 <- lm(mpg ~ wt,data=mtcars)</pre>
plot(lm.1,which=1:6)
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```

2. Create ggplot versions \sim make tidy

Obs. number

```
library(tidyverse)
library(broom)

My.Mod <- lm.1

#Base
plot(My.Mod,which=1)

#GGplot
D1 <- augment(My.Mod) %>% ggplot(aes(x=.fitted,y=.std.resid)) +
```

Leverage

Leverage hii

```
geom_point() +
geom_smooth(se=FALSE,colour="red",size=.25) +
geom_hline(yintercept=0,linetype=3) +
labs(title="Residuls vs Fitted",subtitle=My.Mod$call)
D1
```

Residuls vs Fitted Im(mpg wt, mtcars) Residuals vs Fitted ∞ OChrysler Imperial Toyota 23801a0 9 0 4 Residuals 0 0 0 $^{\circ}$ std.resid 0 0 000 4 10 15 20 25 30 Fitted values 10 15 25 20 30 $Im(mpg \sim wt)$.fitted

3. Functionalise

How to determine models? What sort of arguments, functionality? PAss through Design?

```
## What should it look like?

# Pehaps???

MyModel %>% ggdiag()

Data %>% MyModel %>% ggdiag()

# plot index no or rather name?

Data %>% MyModel %>% ggdiag(Plot=1:2)

Data %>% MyModel %>% ggdiag(Plot=c("RVFit","qq"))
```

- 4. Ensure plays nice with existing
- x. Other ThoughtsPractice with RProj, Git.Don't re-invent the wheel just make quicker to change the flat.

Questions ???

 $Logic \ for \ text \ annotation? \ How \ determine \ cutoff. \ Starting \ assumptiom? \ Start \ from \ a) \ model \ (eg \ lm) \ or \ b)$ tidy output of model

```
# How do you see how current plot is coded?
# This doesnt help
plot
## function (x, y, ...)
```

```
## UseMethod("plot")
## <bytecode: 0x7f93042ab180>
## <environment: namespace:graphics>
```