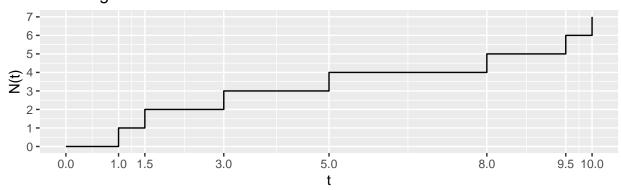
## 00\_proc\_Counting

Frances Lin 5/10/2021

```
library(tidyverse)
library(ggplot2)
X = c(0, 1, 1.5, 3, 5, 8, 9.5, 10)
df Counting = tibble(
 x = X
 y = 0:(length(X) - 1) #1:(length(X)) #
p_Counting <- ggplot(data=df_Counting, mapping=aes(x=x, y=y)) +</pre>
  geom_step() +
  labs(title = "Counting Process",
       x = "t",
       y = "N(t)") +
  scale_x_continuous(limits = c(0, 10), breaks = df_Counting$x) +
  scale_y_continuous(limits = c(0, length(df_Counting$x) - 1), breaks = seq(0, 10, by = 1))
\#p\_Counting
# Plot time plot
df_Counting <- df_Counting %>% add_column(
 t_fix = c(0, rep(2, length(df_Counting$x) - 1)) # so that no point at t = 0
  #t_fix = rep(2, length(df_HPP$x))
)
p_Counting_time <- ggplot(data=df_Counting, mapping=aes(x=x, y=t_fix)) +
  geom_point(size=0.5) +
 ylim(c(1,3)) +
  labs(title = "Corresponding Inter-Arrivial Times",
       x = "t",
       y = "y-axis has no meaning") +
  scale_x_continuous(limits = c(0, 10), breaks = seq(0, 10, by = 1))
#p_Counting_time
require(gridExtra)
## Loading required package: gridExtra
##
## Attaching package: 'gridExtra'
## The following object is masked from 'package:dplyr':
##
##
       combine
```

## Warning: Removed 1 rows containing missing values (geom\_point).

## **Counting Process**



## Corresponding Inter-Arrivial Times

