assignment$_4$

éidhne.kennedy

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1 equations

1. the equation:

$$p_i = \frac{\sum_{k=1}^{m} \mu_{p_i}(x_k) \times (x_k)}{\sum_{k=1}^{m} \mu_{p_i}(x_k)}, \forall = 1, 2, \cdots, m$$

is given by

```
p_i = \frac{\sum^{m}_{k=1}\mu_{p_{i}} (x_k) \times (x_k) }
{\sum^{m}_{k=1}\mu_{p_{i}} (x_k) }, \forall = 1,2,\cdots,m
```

2. the equation:

$$p_i = \frac{\int_{k}^{m} x_k \times \mu_{p_i}(x_k)\, dx}{\int_{k}^{m} \mu_{p_i}(x_k)\, dx}$$

is given by

```
p_i = \frac{\int^{m}_{k} x_k \times \mu_{p_{i}}
(x_k)\,dx}{\int^{m}_{k} \mu_{p_{i}} (x_k)\,dx}
```

3. the equation:

$$S(x, z) = \left\{ \frac{\mu_S(x, z)}{(x, z)} \middle| (x, z) \in X \times Z \right\}$$

is given by

```
S(x,z) = \bigg\{\frac{\mu_S(x,z)}{(x,z)}\Big|(x,z)
\in X \times Z\bigg\}
```

4. the equation:

$$J_{ind}(t) = \begin{cases} 1, & \text{if } n = 0 \\ \frac{(\sum_{i=i}^{n} g_i)^2}{n \sum_{i=i}^{n} (g_i)^2}, & \text{otherwise} \end{cases}$$

is given by

```
J_{ind}(t) =
\begin{cases}
1, & \text{if } n = 0\\
\frac{(\sum^{n}_{i=i} g_i)^2}
{n\sum^{n}_{i=i} (g_i)^2}, & \text{otherwise}
\end{cases}
```

2 table

the code to create this table

Table 1: A table without vertical lines

	Treatment A	Treatment B
John Smith	1	2
Jane Doe	-	3
Mary Johnson	4	5

is as follows

```
\begin{table}[h]
\centering
\caption{A table without vertical lines}
\begin{tabular}[t]{lcc}
\hline
             & Treatment A & Treatment B \\ \hline
John Smith   & 1           & 2           \\
Jane Doe     & -           & 3           \\
Mary Johnson & 4           & 5           \\ \hline
\end{tabular}
\end{table}%
```

3 algorithm

the code to create this algorithm

Algorithm 1 compute sum of integers in an array

```
1: procedure ArraySum(A)
2:     sum = 0
3:     for each integer i in A do
4:         sum = sum + i
5:     end for
6:     Return sum
7: end procedure
```

is as follows

```
\begin{algorithm}[H]
\caption{compute sum of integers in an array}\label{alg:cap}
\begin{algorithmic}[1]
\Procedure{ArraySum}{$A$}
   \State {$sum = 0$}
   \For {each integer {$i$} in {$A$}}
   \State{$sum = sum + i$}
   \EndFor
   \State Return {$sum$}
   \EndProcedure
\end{algorithmic}
\end{algorithm}
```