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HOME WORK 9 — Documentation

Problem 1. A Manufacturer at each time period receives an order for her product with probability p and receives no order with probability $1-p$. At any period, she has a choice of processing all the unfilled orders in a batch, or process no order at all. The maximum number of orders that can remain unfilled is n. The cost per unfilled order at each time period is $c > 0$, the setup cost to process the unfilled orders is $K > 0$. The manufacturer wants to find a processing policy that minimizes the total expected cost with discount factor $\alpha < 1$

1. model formulation

2. pseudocode

3. code

```
class DiscountProblem():

  def __init__(self, c, K, n, p, a):
      self.c = c
      self.K = K
      self.n = n
      self.p = p
      self.a = a
      self.action_prob = {0: 0.5, 1: 0.5}
      self.transition = self.__init_transition()
      self.V = [0 for _ in range(n + 1)]
```

$\longrightarrow$ *Answer*

Problem 2. What does the preamble contain ?

The preamble may contain the following declarations[1] :

```
\documentclass{assignment}
\coursetitle{Creating assignments}
\courselabel{ASG 101}
\exercisesheet{Home Work 1}{Documentation}
\student{Madhusudan Singh}
\semester{Summer 2004}
\date{July 14, 2004}
%\usepackage[pdftex]{graphicx}
%\usepackage{subfigure}
```

Its possible. Just pass the options in the preamble :

```
\documentclass[option1,option2, ...]{assignment}
```

Equation numbers refer to the problem number. For instance,

[1] Current markup's preamble.

```
\begin{eqnarray}
E & = & mc^{2} \label{eqn:emc2} \\
\textrm{That is how equations are numbered} \ldots \label{eqn:numbered} \\
\textrm{Or not numbered} \ldots \nonumber
\end{eqnarray}
```

$$E = mc^2 \tag{1-1}$$

That is how equations are numbered . . . (1-2)

Or not numbered . . .

```
\begin{answer}
\begin{eqnarray}
Answer=f(bold) \nonumber
\end{eqnarray}
\end{answer}
\end{problem}
```

Problem 3. Can one have more than one answer section for the problem ?

Most definitely.

Certain problems have many parts :

(a) Part 1

Answer to part one.

$\longrightarrow$ Answer

(b) Part 2

Answer to part two.

$\longrightarrow$ Answer

```
\begin{enumerate}
\item Part 1

\begin{answer}
Answer to part one.
\end{answer}

\item Part 2

\begin{answer}
Answer to part two.
\end{answer}

\end{enumerate}
```

Problem 4. What are the copyright conditions for this class file ?

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Q.E.D.

$\longrightarrow$ Answer

Problem 5. How do I get help using this class ?

You may post your queries on comp.text.tex . I check it fairly regularly.

Submitted by Pan Meng on Dec 30, 2021.