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Assignment
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1 Question 1

xxxxx, xxxxx[1]

1.1 XXXX

xxxxx, xxxxx[2-4]

2 Question 2

xxxxx, xxxxx
An example of the Algorithm 1.

Algorithm 1: Control policy construction

Input: Control parameter r_i, time series $Backgrd(T_i)$=$T_1, T_2, \ldots, T_n$ and similarity threshold θ_r
Output: Control policy $con(r_i)$

$con(r_i) = \Phi$;
for $j = 1; j \leq n; j \neq i$ **do**
    float $maxSim = 0$;
    $r^{maxSim} = null$;
    while *not end of* T_j **do**
        compute Jaro(r_i, r_m); % here are the commentary texts
    $con(r_i) = con(r_i) \cup r^{maxSim}$;
return $con(r_i)$;

3 Question 3

xxxxx, xxxxx
Formal expression is very important.
Example 1:

$$e^{\pi i} + 1 = 0 \tag{1}$$

Example 2:

$$a^2 + b^2 = c^2 \tag{2}$$

If no equation number is needed, we can use double dollars at the beginning and end of the equation.

$$\cos x + \sin y = 1.$$

Example 3:

$$\binom{n}{m} = \binom{n}{n-m} = C_n^m = C_n^{n-m} \tag{3}$$

Example 4:

$$(a+b)^3 = (a+b)(a+b)^2 = a^3 + 3a^2b + 3ab^2 + b^3 \tag{4}$$

Here are more examples of mathematics equations or expression.

$$x = a_0 + \cfrac{1}{a_1 + \cfrac{1}{a_2 + \cfrac{1}{a_3 + \cfrac{1}{a_4}}}} \tag{5}$$

$$\frac{\begin{matrix}(x_1 x_2) \\ \times (x_1' x_2')\end{matrix}}{(y_1 y_2 y_3 y_4)}$$

$$P\left(A = 2 \middle| \frac{A^2}{B} > 4\right)$$

$$M = \begin{bmatrix} \frac{5}{6} & \frac{1}{6} & 0 \\ \frac{5}{6} & 0 & \frac{1}{6} \\ 0 & \frac{5}{6} & \frac{1}{6} \end{bmatrix}$$

$$M = \begin{matrix} \\ A \\ B \end{matrix} \begin{matrix} \begin{matrix} x & y \end{matrix} \\ \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \end{matrix}$$

$$f(n) = \begin{cases} n/2 & \text{if } n \text{ is even} \\ -(n+1)/2 & \text{if } n \text{ is odd} \end{cases}$$

$$\left(\begin{array}{c} n \\ r \end{array} \right) = \frac{n!}{r!(n-r)!}$$

Here are some logic expressions:

$$(\forall s \in \overline{K})(\forall \sigma \in \Sigma)(\forall s' \in \overline{K}) s\sigma \in L(G) \ \&\ s'\sigma \in L(G) \ \&\ Ps = Ps' \implies s' \in \overline{K}.$$

For more details about mathematics equations or expressions, see https://en.wikibooks.org/wiki/LaTeX/Mathematics.

References

[1] Cong X, Fanti M P, Mangini A M, et al. Critical observability of discrete-event systems in a petri net framework[J/OL]. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52(5): 2789-2799. DOI: 10.1109/TSMC.2021.3056693.

[2] Wang J, Lv M, Li Z, et al. Multivariate selection-combination short-term wind speed forecasting system based on convolution-recurrent network and multi-objective chameleon swarm algorithm[J/OL]. Expert Systems with Applications, 2023, 214: 119129. DOI: https://doi.org/10.1016/j.eswa.2022.119129.

[3] Chen Y, Li Y, Li Z, et al. On optimal supervisor design for discrete-event systems modeled with petri nets via constraint simplification[J/OL]. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52(6): 3404-3418. DOI: 10.1109/TSMC.2021.3069201.

[4] Wu N, Qiao Y, Li Z, et al. A novel control-theory-based approach to scheduling of high-throughput screening system for enzymatic assay[J/OL]. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52(12): 7667-7678. DOI: 10.1109/TSMC.2022.3161643.