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| **Politechnika Białostocka Wydział Informatyki** | Data: 19.05.2015r |
| **Przedmiot:** Modelowanie i analiza systemów informatycznych **Sprawozdanie nr: 10**  **Temat**: Model Poczty  **Autor:** Łukasz Świderski  **Studia:** stacjonarne, II stopnia, semestr 1 | **Prowadzący:**  dr inż. Walenty Oniszczuk  **Ocena:** |

1. **Treść zadania**

Sieci - metoda Jacksona

  
Dane:

Lambda = 0.65 zad/sek

1/u1 = 28msek

1/u2 = 21msek

1/u3 = 82msek

1/u4 = 450msek

r12 = 0.75

r21 = 1.00

r31 = 0.90

r13 = 0.25

r30 = 0.10

r41 = 1.00

Obliczyć i przedstawić w formie wykresów:

1) średnia liczba przejść zadania przez stanowisko obsługi ei = Lambdai/Lambda

2) średni czas pobytu zadania na stanowisku obsługi qi^ = qi \* ei

3) średni czas przejścia zadania przez sieć qsuma = Suma od i=1 do 4 po qi^

4) histogramy średniej liczby zadań w kolejkach do stanowisk obsługi vi^

5) histogramy średniej liczby zadań na stanowiskach obsługi (węzłach obsługi). ni^

1. **Część teoretyczna**

**AMOK –**jest pakietem programowym, umożliwiającym praktyczne stosowanie modeli teorii masowej obsługi, a w szczególności modelowania systemów komputerowych. Został on stworzony do opisu i oceny efektywności takich systemów, lecz może znaleźć zastosowanie wszędzie tam, gdzie stosuje się teorie masowej obsługi i model w postaci sieci stanowisk obsługi, między którymi krążą klienci ustawieni w razie potrzeby w kolejki, może odnosić się do wieku sytuacji i obiektów.

1. **Rozwiązanie**

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| SOUR jackson  \*DECLARATION\*  /SOURCE/ NAME = LAMBDA  /CLASS/ NAME = KL[0]  /STATION/ NAME = ST1  /STATION/ NAME = ST2  /STATION/ NAME = ST3  /STATION/ NAME = ST4  /OUT/ NAME = OUT  \*END\*  \*DESCRIPTION\*  /SOURCE/ NAME = LAMBDA  SERVICE = EXP[1.63]  TRANSIT = [1.0]ST4;  /STATION/ NAME = ST4  SCHEDULE = FIFO  SERVICE = EXP[0.450]  TRANSIT = [1.0]ST1;  /STATION/ NAME = ST1  SCHEDULE = FIFO  SERVICE = EXP[0.028]  TRANSIT = [0.75]ST2,[0.25]ST3;  /STATION/ NAME = ST2  SCHEDULE = FIFO  SERVICE = EXP[0.021]  TRANSIT = [1.0]ST1;  /STATION/ NAME = ST3  SCHEDULE = FIFO  SERVICE = EXP[0.082]  TRANSIT = [0.9]ST1,[0.1]OUT;  \*END\* |

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| **C:\winamok>amok-32 spr10.amk JACKSON**  **Wyniki.txt**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  |  | CZAS OBSŁ. | LICZBA KL. | WYKORZYST. | PRZEPUST. | | 1.Stan. | ST1 |  | 0.0894902 | 2.1960784 | 0.6871165 | 24.539877 | |  |  | QUEUE | 0.0614902 | 1.5089618 |  | 24.539877 | |  |  | SERVER | 0.0280000 | 0.6871165 | 0.6871165 |  | | 2.Stan. | ST2 |  | 0.0342300 | 0.6300000 | 0.3865030 | 18.404907 | |  |  | QUEUE | 0.0132300 | 0.2434969 |  | 18.404907 | |  |  | SERVER | 0.0210000 | 0.3865030 | 0.3865030 |  | | 3.Stan. | ST3 |  | 0.1650123 | 1.0123456 | 0.5030674 | 6.1349693 | |  |  | QUEUE | 0.0830123 | 0.5092781 |  | 6.1349693 | |  |  | SERVER | 0.0820000 | 0.5030674 | 0.5030674 |  | | 4.Stan. | ST4 |  | 0.6216101 | 0.3813559 | 0.2760736 | 0.6134969 | |  |  | QUEUE | 0.1716101 | 0.1052823 |  | 0.6134969 | |  |  | SERVER | 0.4500000 | 0.2760736 | 0.2760736 |  | |  |  | WYNIKI | (prosty wy | druk ASCII) | : |  | | Dla klasy "KL" |  |  |  |  |  |  | |  |  |  | CZAS OBSŁ. | LICZBA KL. | WYKORZYST. | PRZEPUST. | | 1.Stan. | ST1 |  | 0.0894902 | 2.1960784 | 0.6871165 | 24.539877 | |  |  | QUEUE | 0.0614902 | 1.5089618 |  | 24.539877 | |  |  | SERVER | 0.0280000 | 0.6871165 | 0.6871165 |  | | 2.Stan. | ST2 |  | 0.0342300 | 0.6300000 | 0.3865030 | 18.404907 | |  |  | QUEUE | 0.0132300 | 0.2434969 |  | 18.404907 | |  |  | SERVER | 0.0210000 | 0.3865030 | 0.3865030 |  | | 3.Stan. | ST3 |  | 0.1650123 | 1.0123456 | 0.5030674 | 6.1349693 | |  |  | QUEUE | 0.0830123 | 0.5092781 |  | 6.1349693 | |  |  | SERVER | 0.0820000 | 0.5030674 | 0.5030674 |  | | 4.Stan. | ST4 |  | 0.6216101 | 0.3813559 | 0.2760736 | 0.6134969 | |  |  | QUEUE | 0.1716101 | 0.1052823 |  | 0.6134969 | |  |  | SERVER | 0.4500000 | 0.2760736 | 0.2760736 |  | |

1)

2)

3)

4)

5)

**Podsumowanie:**  
Niestety pod systemem Windows 8.1 nie udało mi się uruchomić poprawnie programu winamok, jednakże program amok-32 po wywołaniu z odpowiednimi parametrami uruchomił się z poziomu wiersza poleceń.