МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ

“БРЕСТСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ”

**ИНТЕЛЕКТУАЛЬНЫЕ ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ**

ОТЧЁТ

По лабораторной работе № \_\_

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Брест – 2023



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| --- |
| model(100);    function model(n)  WE\_cars = generate\_cars(60);  NS\_cars = generate\_cars(0);  cycle\_time = 60;  green\_time = 30; % на улице WE  values = zeros(n, 2);  for i = 1:n+1  % Машины проезжают  WE\_skip = skip\_cars(green\_time);  NS\_skip = skip\_cars(cycle\_time - green\_time);  WE\_cars = max(0, WE\_cars - WE\_skip);  NS\_cars = max(0, NS\_cars - NS\_skip);  values(i, 1) = WE\_cars;  values(i, 2) = NS\_cars;  WE\_cars = WE\_cars + generate\_cars(cycle\_time - green\_time);  NS\_cars = NS\_cars + generate\_cars(green\_time);  % Считаем green\_time  green\_time\_term = phase\_green(green\_time);  [~, gr\_val] = max(green\_time\_term);  WE\_cars\_term = phase\_cars(WE\_cars);  [~, WE\_val] = max(WE\_cars\_term);  NS\_cars\_term = phase\_cars(NS\_cars);  [~, NS\_val] = max(NS\_cars\_term);  k = (WE\_val - NS\_val) \* gr\_val \* 5;  regul\_term = phase\_time(k);  [~, regul\_val] = max(regul\_term);  switch regul\_val  case 1  green\_time = max(0, green\_time - 3);  case 3  green\_time = min(60, green\_time + 3);  otherwise  end  end  plot(0:n, values(:, 1), 'b', 0:n, values(:, 2), 'r', 'LineWidth', 2);  fprintf('WE: %f, NS %f\n', mean(values(:, 1)), mean(values(:, 2)));  end    function x = generate\_cars(time)  x = randi([0, int8(time / 2)], 1, 1);  end    function x = skip\_cars(time)  x = int8(time / 3);  end    function y = phase\_green(x)  if x <= 10  y(1) = 1;  else  y(1) = max(min(min((x - 10) / (10.001 - 10), 1), (25 - x) / (25 - 30)), 0);  end  y(2) = max(min(min((x - 20) / (25 - 20), 1), (40 - x) / (40 - 35)), 0);  if x >= 50  y(1) = 1;  else  y(3) = max(min(min((x - 25) / (30 - 25), 1), (50.001 - x) / (50.001 - 50)), 0);  end  end |



