**Лущик Никита КС-44**

**Однослойный перцептрон**

Входные данные – 3 входа, 1 выход, скорость обучения 0,8, Альфа 1:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **№** | **x1** | **x2** | **x3** | **y1** | **v** | **Alfa** |
| 1 | 0,26316 | 0,69231 | 0,40 | 0,58219 | 0,8 | 1,00000 |
| 2 | 0,21053 | 0,61538 | 0,25 | 0,37955 |  |  |
| 3 | 0,52632 | 0,84615 | 0,35 | 0,79534 |  |  |
| 4 | 0,94737 | 0,30769 | 0,55 | 0,84150 |  |  |
| 5 | 0,68421 | 0,23077 | 1,00 | 1,15789 |  |  |
| 6 | 0,57895 | 1,00000 | 0,15 | 0,72895 |  |  |
| 7 | 0,89474 | 0,23077 | 0,00 | 0,20648 |  |  |
| 8 | 0,00000 | 0,07692 | 0,15 | 0,15000 |  |  |
| 9 | 0,05263 | 0,00000 | 0,95 | 0,95000 |  |  |
| 10 | 1,00000 | 0,92308 | 0,00 | 0,92308 |  |  |

Некоторые промежуточные результаты:

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| **Эпоха 1** | | | | | | | | |
|  | **w0** | **w1** | **w2** | **w3** | **S** | **Fs** | **Delta** | **Delta^2** |
| 0 | 0,900 | -0,600 | 0,100 | 0,450 | 0,991 | 0,729 | -0,147 | 0,022 |
| 1 | 0,782 | -0,631 | 0,018 | 0,403 | 0,762 | 0,682 | -0,302 | 0,091 |
| 2 | 0,541 | -0,682 | -0,130 | 0,342 | 0,191 | 0,548 | 0,248 | 0,061 |
| 3 | 0,739 | -0,578 | 0,037 | 0,412 | 0,430 | 0,606 | 0,236 | 0,056 |
| 4 | 0,927 | -0,399 | 0,095 | 0,516 | 1,192 | 0,767 | 0,391 | 0,153 |
| 5 | 1,240 | -0,185 | 0,168 | 0,828 | 1,425 | 0,806 | -0,077 | 0,006 |
| 6 | 1,178 | -0,221 | 0,106 | 0,819 | 1,005 | 0,732 | -0,526 | 0,276 |
| 7 | 0,758 | -0,597 | 0,009 | 0,819 | 0,881 | 0,707 | -0,557 | 0,310 |
| 8 | 0,312 | -0,597 | -0,025 | 0,752 | 0,995 | 0,730 | 0,220 | 0,048 |
| 9 | 0,488 | -0,588 | -0,025 | 0,919 | -0,123 | 0,469 | 0,454 | 0,206 |
| 10 | 0,851 | -0,225 | 0,310 | 0,919 | 0,851 | 0,701 | -0,701 | 0,491 |
| **ошибка по выходу:** | | | | | | | | **0,415** |

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| **Эпоха 10** | | | | | | | | |
|  | **w0** | **w1** | **w2** | **w3** | **S** | **Fs** | **Delta** | **Delta^2** |
| 0 | -1,597 | 1,931 | 0,860 | 0,589 | -0,258 | 0,436 | 0,146 | 0,021 |
| 1 | -1,480 | 1,962 | 0,941 | 0,636 | -0,329 | 0,418 | -0,039 | 0,002 |
| 2 | -1,511 | 1,955 | 0,922 | 0,628 | 0,518 | 0,627 | 0,169 | 0,028 |
| 3 | -1,376 | 2,026 | 1,036 | 0,675 | 1,234 | 0,774 | 0,067 | 0,004 |
| 4 | -1,323 | 2,077 | 1,053 | 0,705 | 1,046 | 0,740 | 0,418 | 0,175 |
| 5 | -0,988 | 2,306 | 1,130 | 1,039 | 1,632 | 0,836 | -0,108 | 0,012 |
| 6 | -1,074 | 2,256 | 1,044 | 1,026 | 1,185 | 0,766 | -0,559 | 0,313 |
| 7 | -1,522 | 1,856 | 0,940 | 1,026 | -1,296 | 0,215 | -0,065 | 0,004 |
| 8 | -1,574 | 1,856 | 0,936 | 1,018 | -0,509 | 0,375 | 0,575 | 0,330 |
| 9 | -1,114 | 1,880 | 0,936 | 1,455 | 1,630 | 0,836 | 0,087 | 0,008 |
| 10 | -1,045 | 1,949 | 1,001 | 1,455 | -1,045 | 0,260 | -0,260 | 0,068 |
| **ошибка по выходу:** | | | | | | | | **0,311** |

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| **Эпоха 16** | | | | | | | | |
|  | **w0** | **w1** | **w2** | **w3** | **S** | **Fs** | **Delta** | **Delta^2** |
| 0 | -1,343 | 1,697 | 0,949 | 3,146 | 1,019 | 0,735 | -0,153 | 0,023 |
| 1 | -1,465 | 1,665 | 0,865 | 3,097 | 0,192 | 0,548 | -0,168 | 0,028 |
| 2 | -1,600 | 1,637 | 0,782 | 3,064 | 0,995 | 0,730 | 0,065 | 0,004 |
| 3 | -1,548 | 1,664 | 0,826 | 3,082 | 1,978 | 0,878 | -0,037 | 0,001 |
| 4 | -1,577 | 1,636 | 0,817 | 3,066 | 2,796 | 0,942 | 0,215 | 0,046 |
| 5 | -1,405 | 1,754 | 0,857 | 3,238 | 0,953 | 0,722 | 0,007 | 0,000 |
| 6 | -1,399 | 1,758 | 0,863 | 3,239 | 0,372 | 0,592 | -0,386 | 0,149 |
| 7 | -1,708 | 1,482 | 0,791 | 3,239 | -1,161 | 0,238 | -0,088 | 0,008 |
| 8 | -1,778 | 1,482 | 0,786 | 3,228 | 1,366 | 0,797 | 0,153 | 0,023 |
| 9 | -1,656 | 1,488 | 0,786 | 3,345 | 0,558 | 0,636 | 0,287 | 0,082 |
| 10 | -1,426 | 1,718 | 0,998 | 3,345 | -1,426 | 0,194 | -0,194 | 0,038 |
| **ошибка по выходу:** | | | | | | | | **0,201** |