МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ УКРАИНЫ

ХАРЬКОВСКИЙ НАЦИОНАЛЬНЫЙ УНИВЕРСИТЕТ РАДИОЭЛЕКТРОНИКИ

Отчёт по лабораторной работе №3

По дисциплине: «Искусственный интеллект»

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3 ЭКСПЕРТНЫЕ СИСТЕМЫ

3.1 Цель работы

Изучение учебной оболочки экспертной системы. Составление правил экспертной системы.

3.2 Ход работы

В файле программы «REFREGERATOR.RUL» составлено 35 правил:

|  |  |  |  |
| --- | --- | --- | --- |
| RULE (1)  IF  motor = Ok and  power\_block = Ok and  covering = Ok and  number\_of\_shelves = Ok and  height = Ok and  width = Ok and,  THEN  config = Ok.  RULE (2)  IF  power\_block = 100W,  THEN  power\_block = Ok.  RULE (3)  IF  motor = 20W,  THEN  motor = Ok.  RULE (4)  IF  covering = alkyd\_paint,  THEN  covering = Ok.  RULE (5)  IF  height = 200,  THEN  height = Ok.  RULE (6)  IF  width = 50,  THEN  winch = Ok.  RULE (7)  IF  number\_of\_shelves = 6,  THEN  number\_of\_shelves = Ok.  RULE (8)  IF  goal = domestic\_use,  THEN  power\_block = 100W and  covering = alkyd\_paint and  height = Not neccesary and  width = Not neccesary.  RULE (9)  IF  width = small,  THEN  width = 30. | RULE (10)  IF  width = large,  THEN  width = 50.  RULE (11)  IF  height = small,  THEN  height = 120.  RULE (12)  IF  height = mean,  THEN  height = 150.  RULE (13)  IF  height = large,  THEN  height = 200.  RULE (14)  IF  goal = manufacturing and  area = small and  height = large,  THEN  power\_block = 100W.  RULE (15)  IF  height = mean,  THEN  number\_of\_shelves = 6.  RULE (16)  IF  height = large,  THEN  number\_of\_shelves = 10.  RULE (17)  IF  amount\_of\_content = small,  THEN  height = mean and  width = 50.  RULE (18)  IF  amount\_of\_content = huge,  THEN  height = large and  width = 50. | RULE (19)  IF  project\_price = less\_1000,  THEN  project\_value = small.  RULE (20)  IF  project\_price = 1000-10000,  THEN  project\_value = mean.  RULE (21)  IF  project\_price = 10000-100000,  THEN  project\_value = mean cf = 50 and  project\_value = large cf = 90 and  project\_value = huge cf =70.  RULE (22)  IF  project\_price = greater\_100000,  THEN  project\_value = large cf = 70 and  project\_value = huge cf = 90.  RULE (23)  IF  project\_value = small,  THEN  width = small cf = 80 and  width = large cf = 60 and  height = small cf = 90 and  height = large cf = 50.  RULE (24)  IF  project\_value = mean,  THEN  width = small cf = 50 and  width = mean cf = 90 and  height = mean cf = 80 and  height = large cf = 30.  RULE (25)  IF  power\_of\_motor = low,  THEN  motor = 100 cf = 90 and  motor = 150 cf = 50 and  motor = 200 cf = 10.  RULE (26)  IF  power\_of\_motor = small,  THEN  motor = 100 cf = 50 and  motor = 150 cf = 90 and  motor = 200 cf = 50.  RULE (27)  IF  power\_of\_motor = huge,  THEN  motor = 100 cf = 10 and  motor = 150 cf = 50 and  motor = 200 cf = 90. | RULE (28)  IF  covering\_quality = bad,  THEN  covering = soviet\_ink cf = 90 and  covering = nitrocellulose\_lacquer cf = 50 and  covering = alkyd\_ink cf = 10.  RULE (29)  IF  covering\_quality = normal,  THEN  covering = soviet\_ink cf = 50 and  covering = nitrocellulose\_lacquer cf = 90 and  covering = alkyd\_ink cf = 50.  RULE (30)  IF  covering\_quality = best,  THEN  covering = soviet\_ink cf = 10 and  covering = nitrocellulose\_lacquer cf = 50 and  covering = alkyd\_ink cf = 90.  RULE (31)  IF  shelves = not\_many,  THEN  number\_of\_shelves = 4 cf = 90 and  number\_of\_shelves = 6 cf = 50 and  number\_of\_shelves = 8 cf = 20.  RULE (32)  IF  shelves = normal,  THEN  number\_of\_shelves = 4 cf = 50 and  number\_of\_shelves = 6 cf = 90 and  number\_of\_shelves = 8 cf = 50.  RULE (33)  IF  shelves = many,  THEN  number\_of\_shelves = 4 cf = 20 and  number\_of\_shelves = 6 cf = 50 and  number\_of\_shelves = 8 cf = 90.  RULE (34)  IF  power\_of\_refrez = low,  THEN  motor = 100W cf = 90 and  motor = 200W cf = 20.  RULE (35)  IF  power\_of\_refrez = huge,  THEN  motor = 100W cf = 20 and  motor = 200W cf = 90. |

ВЫВОДЫ

Результатом выполнения лабораторной работы является изучение учебной оболочки экспертной системы.

В ходе работы составлены 35 правил экспертной системы.