#include <stdio.h>

#include <malloc.h>

#include <Windows.h>

struct queue

{

double number;

queue\* next;

queue\* prev;

};

void CheckInp(int\* number)

{

while (!scanf\_s("%d", number))

{

rewind(stdin);

printf("Некорректный формат ввода, повторите снова: ");

};

}

void CheckInpd(double\* number)

{

while (!scanf\_s("%lf", number))

{

rewind(stdin);

printf("Некорректный формат ввода, повторите снова: ");

};

}

void Push(queue\*\* head, queue\*\* tail, double number, int variant)

{

queue\* elem = (queue\*)calloc(1, sizeof(queue));

elem->number = number;

if (!\*head)

\*head = \*tail = elem;

else

if (variant)

{

(\*tail)->next = elem;

elem->prev = \*tail;

\*tail = elem;

}

else

{

(\*head)->prev = elem;

elem->next = \*head;

\*head = elem;

}

}

void Show(queue\* head, queue\* tail, int variant)

{

queue\* point = head, \* point2 = tail;

if (variant)

while (point)

{

printf("%.2lf ", point->number);

point = point->next;

}

else

while (point2)

{

printf("%.2lf ", point2->number);

point2 = point2->prev;

}

}

void Clean(queue\*\* head, queue\*\* tail, int var)

{

if (!var)

{

queue\* temp = (queue\*)calloc(1, sizeof(queue));

temp = (\*head)->next;

if (temp)

temp->prev = 0;

if (\*head == \*tail)

\*head = temp;

free(\*head);

\*head = temp;

}

else

{

queue\* temp = (queue\*)calloc(1, sizeof(queue));

temp = (\*tail)->prev;

if (temp)

temp->next = 0;

if (\*head == \*tail)

\*head = temp;

free(\*tail);

\*tail = temp;

}

}

void CleanParam(queue\*\* head, queue\*\* tail, int num)

{

queue\* point = \*head;

while (point)

{

if (!point->next && point->number == num)

Clean(&point, tail, 1);

else

if (!point->prev && point->number == num)

{

Clean(&point, tail, 0);

\*head = point;

}

else

if (point->next && point->next->number == num)

{

queue\* temp = point->next;

point->next = point->next->next;

if (point->next)

point->next->prev = point;

else

\*tail = point;

free(temp);

}

else

point = point->next;

}

}

void Task(queue\*\* head, queue\*\* tail)

{

queue\* point = \*head;

double min = 999;

while (point)

{

if (min > point->number)

min = point->number;

point = point->next;

}

CleanParam(head, tail, min);

}

int main()

{

queue\* head = 0, \* tail = 0;

int a = 1, amount, var;

double n;

SetConsoleOutputCP(1251);

printf("1.Ввод\n2.Вывод\n3.Персональное задание\n");

printf("Чтобы выйти, выберите любой другой пункт\n");

while (a)

{

printf("\nПараметр:");

CheckInp(&a);

switch (a)

{

case 1:

{

int rep;

printf("1 - добавление в хвост\n0 - добавление в голову\n");

CheckInp(&var);

do

{

printf("Введите кол-во чисел: ");

CheckInp(&amount);

printf("\nВведите числа: ");

for (int i = 0; i < amount; i++)

{

CheckInpd(&n);

Push(&head, &tail, n, var);

}

printf("Продолжить ввод?\n1 - Да\n0 - Нет\n");

CheckInp(&rep);

} while (rep);

}

break;

case 2:

{

printf("1 - Просмотр с головы\n0 - Просмотр с хвоста\n");

CheckInp(&var);

if (head)

Show(head, tail, var);

else

printf("Очередь пуста\n");

}

break;

case 3:

{

if (head)

Task(&head, &tail);

else

printf("Очередь пуста\n");

}

break;

default:

return 0;

}

}

}

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