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code
header.h

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h header.h U × C++ source.cpp U C++ main.cpp U
h header.h > ...
1  #ifndef HEADER_H_INCLUDED
2  #define HEADER_H_INCLUDED
3  #include <iostream>
4
5  using namespace std;
6
7  typedef bool boolean;
8  typedef int infotype;
9  typedef struct elmQ *adr;
10
11  struct elmQ{
12      infotype info;
13      adr next;
14  };
15
16  struct queue {
17      adr head,tail;
18  };
19
20  adr alokasi_1301223029(infotype info);
21  adr findElmt_1301223029(queue q , infotype num);
22  bool queueEmpty_1301223029(queue q);
23  void createqueue_1301223029(queue &q);
24  void dealokasi_1301223029(adr p);
25  void enqueue_1301223029(queue &q , adr p);
26  void dequeue_1301223029(queue &q , adr &p);
27  void printInfo_1301223029(queue q);
28  int nbOfElm_1301223029(queue q);
29  void ganjilGenap_1301223029(queue &q , queue &qGanjil , queue &qGenap);
30
31  #endif
```

source.cpp

```
source.cpp > ganjilGenap_1301223029(queue &, queue &, queue &)
1  #include "header.h"
2
3  adr alokasi_1301223029(infotype info){
4      adr p ;
5      p = new elmQ;
6      p->info = info;
7      p->next = NULL;
8      return p;
9  }
10
11  adr findElmt_1301223029(queue q , infotype num){
12      adr p;
13      p = q.head;
14      while (p!= NULL){
15          if (p->info == num){
16              return p;
17          }
18          p = p->next;
19      }
20      return p;
21  }
22
23  bool queueEmpty_1301223029(queue q){
24      return q.head == NULL;
25  }
26
27  void createqueue_1301223029(queue &q){
28      q.head = NULL;
29      q.tail= NULL;
30  }
31
32
33  void dealokasi_1301223029(adr p){
34      delete p;
35  }
36
37
38  void enQueue_1301223029(queue &q , adr p){
39      if (queueEmpty_1301223029(q)){
40          q.head = p;
41          q.tail = p;
42      }else {
43          q.tail->next = p;
44          q.tail = p;
45      }
46
47  }
```

```

47 }
48 void dequeue_1301223029(queue &q , adr &p){
49     if (queueEmpty_1301223029(q)){
50         cout << "Kosong"<<endl;
51     }else if (q.head == q.tail){
52         p = q.head;
53         q.head = NULL;
54         q.tail = NULL;
55     }else {
56         p = q.head;
57         q.head = p->next ;
58         p->next = NULL;
59     }
60 }
61 void printInfo_1301223029(queue q){
62     adr p;
63     p = q.head;
64     int i = 1;
65     if (queueEmpty_1301223029(q)){
66         cout << "Kosong"<<endl;
67     }else {
68         while (p != NULL){
69             cout <<"Antiran ke-" << i<< " : " <<p->info << endl;
70             p = p->next;
71             i++;
72         }
73     }
74 }
75 }
76 }
77 }
78 int nbOfElm_1301223029(queue q){
79     int jml = 0;
80     adr p ;
81     p = q.head;
82     while (p!=NULL)
83     {
84         jml++;
85         p = p->next;
86     }
87     return jml;
88 }
89 }
90 void ganjilGenap_1301223029(queue &q , queue &qGanjil , queue &qGenap){
91     adr p ;
92 }
93 while (!queueEmpty_1301223029(q)){
94     dequeue_1301223029(q,p);

```

```

88     }
89
90     void ganjilGenap_1301223029(queue &q , queue &qGanjil , queue &qGenap){
91         adr p ;
92
93         while (!queueEmpty_1301223029(q)){
94             dequeue_1301223029(q,p);
95             if (p->info % 2== 0){
96                 enqueue_1301223029(qGenap , p);
97             }else {
98                 enqueue_1301223029(qGanjil, p);
99             }
100         }
101     }

```

main.cpp

C++ main.cpp > ...

```
1  #include "header.h"
2
3  int main(){
4      adr p;
5      queue q, qGenap, qGanjil;
6      infotype x;
7
8      createqueue_1301223029(q);
9      createqueue_1301223029(qGenap);
10     createqueue_1301223029(qGanjil);
11
12
13     for (int i = 1 ; i <= 11 ; i++){
14         cin >> x;
15         p = alokasi_1301223029(x);
16         enqueue_1301223029(q,p);
17     }
18
19
20     printInfo_1301223029(q);
21     ganjilGenap_1301223029(q,qGanjil,qGenap);
22
23     cout << "Queue utama : "<<endl;
24     printInfo_1301223029(q);
25     cout << "Queue ganjil : "<<endl;
26     printInfo_1301223029(qGanjil);
27     cout << "Queue genap : "<<endl;
28     printInfo_1301223029(qGenap);
29     return 0;
30 }
31
32 /*
```

output

```
~/semester-3/Struktur Data/Minggu-9/TP-10 > on main ?2
8:35:51
./myprogram
1
2
3
4
5
6
7
8
9
10
11
Antiran ke-1 : 1
Antiran ke-2 : 2
Antiran ke-3 : 3
Antiran ke-4 : 4
Antiran ke-5 : 5
Antiran ke-6 : 6
Antiran ke-7 : 7
Antiran ke-8 : 8
Antiran ke-9 : 9
Antiran ke-10 : 10
Antiran ke-11 : 11
Queue utama :
Kosong
Queue ganjil :
Antiran ke-1 : 1
Antiran ke-2 : 3
Antiran ke-3 : 5
Antiran ke-4 : 7
Antiran ke-5 : 9
Antiran ke-6 : 11
Queue genap :
Antiran ke-1 : 2
Antiran ke-2 : 4
Antiran ke-3 : 6
Antiran ke-4 : 8
Antiran ke-5 : 10
```