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Kelas : IF-03-02

TUGAS ALPRO & STRUKTUR DATA

1. SOURCE CODE

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <string.h>
4
5  int getCardValue(char card) {
6      if (card == 'J') return 10;
7      else if (card == 'Q') return 11;
8      else if (card == 'K') return 12;
9      else if (card == '1') return 1;
10     else return (int)(card - '0');
11 }
12
13 void printCards(char *cards, int length) {
14     for (int i = 0; i < length; i++) {
15         printf("%c ", cards[i]);
16     }
17     printf("\n");
18 }
19
20 int sortCards(char *cards, int length) {
21     int swaps = 0;
22     for (int i = 0; i < length - 1; i++) {
23         int min_idx = i;
24         for (int j = i; j < length; j++) {
25             if (getCardValue(cards[j]) < getCardValue(cards[min_idx])) {
26                 min_idx = j;
27             }
28         }
29         if (min_idx != i)
30         {
31             char temp = cards[i];
32             cards[i] = cards[min_idx];
33             cards[min_idx] = temp;
34             swaps++;
35
36             printf("Pertukaran %d : ", swaps);
37             printCards(cards, length);
38         }
39     }
40 }
41 return swaps;
42 }
43
44 int main() {
45     int jumlah;
46     printf("Masukkan jumlah kartu: ");
47     scanf("%d", &jumlah);
48
49     char kartu[jumlah];
50
51     printf("Masukkan nilai kartu (1-9, J, Q, K): ");
52     for (int i = 0; i < jumlah; i++) {
53         scanf(" %c", &kartu[i]);
54     }
55
56     int swaps = sortCards(kartu, jumlah);
57
58     printf("\nJumlah minimal langkah pertukaran: %d\n", swaps);
59
60     free(kartu);
61     return 0;
62 }
63

```

2. OUTPUT

```
Masukkan nilai kartu (1-9, J, Q, K): 918273645QKJ
.
Pertukaran 1 : . 1 8 2 7 3 6 4 5 Q K J 9
Pertukaran 2 : . 1 2 8 7 3 6 4 5 Q K J 9
Pertukaran 3 : . 1 2 3 7 8 6 4 5 Q K J 9
Pertukaran 4 : . 1 2 3 4 8 6 7 5 Q K J 9
Pertukaran 5 : . 1 2 3 4 5 6 7 8 Q K J 9
Pertukaran 6 : . 1 2 3 4 5 6 7 8 9 K J Q
Pertukaran 7 : . 1 2 3 4 5 6 7 8 9 J K Q
Pertukaran 8 : . 1 2 3 4 5 6 7 8 9 J Q K

Jumlah minimal langkah pertukaran: 8
```