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#include <stdio.h>
#include <stdlib.h>

//Mebuat struct
struct doubleList{
    char name[25];
    char destination[25];
    struct doubleList *next;
    struct doubleList *before;
}*head = NULL, *tail = NULL, *curr = NULL;

//Inisialisasi variable – variable yang digunakan pada beberapa fungsi
int ctr1 = 0, ctr2 = 0, ctr3 = 0;
char destination[25], name[25];

//Fungsi utama
int main()
{
    table();
    display();
    return 0;
}

//Fungsi untuk menampilkan menu
void display(menu){
    printf("1. Add a polling data\n");
    printf("2. Delete a polling data\n");
    printf("3. Show the polling result\n");
    printf("4. Exit\n\n");
    printf(">> Input your choice : ");
    scanf("%d",&menu);
```

```
    if(menu == 1){
        add();
    }
    else if(menu == 2){
        deleteData();
    }
    else if(menu == 3){
        show();
    }
    else if(menu == 4){
        exit(0);
    }
}

//Fungsi untuk menambahkan data
void add(){
    int choice, no;
    printf("\n     1- add before the first data\n");
    printf("     2- add after the last data\n");
    printf("   Input your choice [1...2]: ");
    scanf("%d",&choice);
    puts("");
    if(choice == 1){
        getchar();
        printf("   Input family members name: ");
        scanf("%[^\n]",&name);
        puts("");
        printf("     1- Singapore       2- South Korea       3- Australia\n");
        printf("   Select the tourism destination [1..3]: ");
        scanf("%d",&no);
        while(no == 1){
```

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        strcpy(destination,"Singapore");
        PushHead(name,destination);
        printf("\n   --- successfully add: %s's Data ---\n\n",name);
        ctr1++;
        break;
    }
    while(no == 2){
        strcpy(destination,"South Korea");
        PushHead(name,destination);
        printf("\n   --- successfully add: %s's Data ---\n\n",name);
        ctr2++;
        break;
    }
    while(no == 3){
        strcpy(destination,"Australia");
        PushHead(name,destination);
        printf("\n   --- successfully add: %s's Data ---\n\n",name);
        ctr3++;
        break;
    }
    if(no < 1 || no > 3){
        printf("\n   --- Your Destination Not Found ---\n");
        return add();
    }
}
else if(choice == 2){
    getchar();
    printf("   Input family members name: ");
    scanf("%[^\n]",&name);
    puts("");
    printf("     1- Singapore       2- South Korea       3- Australia\n");
```

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    printf("   Select the tourism destination [1..3]: ");
    scanf("%d",&no);
    while(no == 1){
        strcpy(destination,"Singapore");
        PushTail(name,destination);
        printf("\n   --- successfully add: %s's Data ---\n\n",name);
        ctr1++;
        break;
    }
    while(no == 2){
        strcpy(destination,"South Korea");
        PushTail(name,destination);
        printf("\n   --- successfully add: %s's Data ---\n\n",name);
        ctr2++;
        break;
    }
    while(no == 3){
        strcpy(destination,"Australia");
        PushTail(name,destination);
        printf("\n   --- successfully add: %s's Data ---\n\n",name);
        ctr3++;
        break;
    }
    if(no < 1 || no > 3){
        printf("\n   --- Your Destination Not Found ---\n");
        return add();
    }
}
else{
    printf("   --- Your Choice Not Found ---\n");
    return add();
```

```
    }
    return main();
}

//Fungsi untuk menghapus data
void deleteData(){
    int choiceDel;
    printf("\n     1- Remove the first data\n");
    printf("     2- Remove the last data\n");
    printf("   Input your choice [1...2]: ");
    scanf("%d",&choiceDel);
    if(choiceDel < 1 || choiceDel > 2){
        printf("\n   --- Your Choice Not Found ---\n\n");
        return deleteData();
    }
    else{
        if (head == NULL){
            printf("   --- no data can be deleted ---\n\n");
        }
        else{
            if(choiceDel == 1){
                PopHead();
                printf("\n   --- Successfull Delete: %s's Data ---\n\n",name);
            }
            else if(choiceDel == 2){
                PopTail();
                printf("\n   --- Successfull Delete: %s's Data ---\n\n",name);
            }
        }
        return main();
    }
```

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}

void show(){
   if(head == NULL){
      printf("\n   --- no data, no polling result ---\n\n");
   }
   else{
      printf("\n   The polling result so far are\n");
      printf("   Singapore = %d,  South Korea = %d,  Australia = %d\n\n",ctr1,ctr2,ctr3);
      printf("   Based on the polling\n");
      if(ctr1>ctr2 && ctr1>ctr3){
         strcpy(destination,"SINGAPORE");
         printf("   on the next holiday our family will go to %s\n\n",destination);
      }
      else if(ctr2>ctr1 && ctr2>ctr3){
         strcpy(destination,"SOUTH KOREA");
         printf("   on the next holiday our family will go to %s\n\n",destination);
      }
      else if(ctr3>ctr1 && ctr3>ctr2){
         strcpy(destination,"AUSTRALIA");
         printf("   on the next holiday our family will go to %s\n\n",destination);
      }
      else{
         printf("   insert or remove polling data.\n\n");
      }
   }
   return main();
}
```

```
//Fungsi untuk menampilkan tabel
void table(){
    curr = head;
    int ctr = 0;
    if(head == NULL){
        printf("\t\t--- Determining a tourist destination ---\n\n");
        printf("-----------------------------------------------------------\n");
        printf(": No. :  Family members name  :   Tourist destination        :\n");
        printf("-----------------------------------------------------------\n");
        printf(":                                                 :\n");
        printf(":                 --- no data here ---                    :\n");
        printf(":                                                 :\n");
        printf("-----------------------------------------------------------\n\n");
    }
    else{
        printf("\t\t--- Determining a tourist destination ---\n\n");
        printf("-----------------------------------------------------------\n");
        printf(": No. :  Family members name  :   Tourist destination        :\n");
        printf("-----------------------------------------------------------");
        while(curr != NULL){
            ctr++;
            printf("\n: %d.  :  %-21s:   %-28s:",ctr,curr->name,curr->destination);
            if(curr==head){
                                        printf(" <-- head ");
                                }
                                if(curr==tail){
                                        printf(" <-- tail\n");
                                }
            curr = curr->next;
        }
        printf("-----------------------------------------------------------\n\n");
```

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    }
}

//Fungsi yang digunakan apabia ingin menambah data di depan
void PushHead(const char* name,const char* destination){
        curr = (struct doubleList*)malloc(sizeof(struct doubleList));
        curr->next = NULL;
        curr->before = NULL;
        strcpy(curr->name,name);
        strcpy(curr->destination,destination);
        if(head == NULL){
                head = tail = curr;
        }
        else{
                curr->next = head;
                head->before = curr;
                head = curr;
        }
}

//Fungsi yang digunakan apabia ingin menambah data di belakang
void PushTail(const char* name,const char* destination){
        curr = (struct doubleList*)malloc(sizeof(struct doubleList));
        curr->next = NULL;
        curr->before = NULL;
        strcpy(curr->name,name);
        strcpy(curr->destination,destination);
        if(head == NULL){
                head = tail = curr;
        }
        else{
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                tail->next = curr;
                curr->before = tail;
                tail = curr;
        }
}

//Fungsi yang digunakan apabia ingin menghapus data di depan
void PopHead(){
        curr = head;
        if(head != NULL){
                if(head == tail){
                        free(curr);
                        head = tail = curr = NULL;
                }
                else{
                        head = head->next;
                        free(curr);
                        head->before = NULL;
                }
        }
}

//Fungsi yang digunakan apabia ingin menghapus data di depan
void PopTail(){
        curr = tail;
        if(head != NULL){
                if(head == tail){
                        free(curr);
                        head = tail = curr = NULL;
                }
                else{
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                tail = tail->before;
                free(curr);
                tail->next = NULL;
            }
        }
    }
```