SINGLE LINKED LIST USING FILE

srilatha@GESLMP22WP7T:~/Experiments/datastructures$ ls

Rreverse deldll deletell.c doubleinsert.c doublell.c insert linked_list.c lldoublefun.c searchdll singlell

circulardll deldoublell.c demp doublelinkedlist empll.c insertdd linkedfun loopdetection_ll searchdll.c trees

circularsinglell delete dll doublell funcll.c insertll.c ll reversell.c searching_algorithms

srilatha@GESLMP22WP7T:~/Experiments/datastructures$ cd singlell/

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ ls

10csllj 11printengineer.c 13csllageocc.c 24cdll.c 3gender.c 5bucket 7age45 8deletealternate.c a.out dllprint sllp

10csllj.c 12addid 15dll.c 2sortsll 4agebuckets 5bucket21-30.c 7age45.c 9csll.c cdll gender sort

11engineer 12addid.c 1sllrint.c 2sortsll.c 4agebuckets.c 6increaseage.c 8delete Club_Membership_2022.txt csll increadeage

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell vim Club_Membership_2022.txt

1001 Jennifer_Crawford Female Engineer 32

1002 Skylar_Sean Female Author 25

1003 Angelina_John Female Doctor 45

1004 Karen_Tatum Female Doctor 34

1005 Tanya_Brown Female Engineer 34

1006 Frank_Bryce Male Doctor 50

1007 Jason_Frank Male Doctor 49

1008 Jimmy_White Male Author 33

1009 Lenny_Bruce Male Engineer 37

1010 Lara_Kilarney Female Doctor 49

1011 Martha_Stalwart Female Politician 41

1012 Ron_Wesley Male Driver 35

1013 Minnie_Drover Female Actor 35

1014 Tom_Fullerton Male Actor 34

1015 Carl_Jackson Male Manager 60

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 1sllrint.c

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
#include<stddef.h>

struct node {
   int id;
   char name[32];
   char gender[8];
   char occupation[16];
   int age;
   struct node* next;
};

struct node *create();
void display(struct node*);
void freel(struct node *);

int main ()
{
   struct node *head; //= NULL;
      head = NULL;
```

```
    head = create();
    display(head);
        freel(head);
        head = NULL;
        return 0;
}
struct node *create()
{
    struct node *head1 = NULL;
    struct node *new = NULL;
    struct node *temp = NULL;
    FILE *fp;
        fp  = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch = 0;
        if (fp == NULL) {
                printf("Error ");
                exit(1);
        }
   while(ch != EOF) {
        new = (struct node *) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
        new -> next = NULL;
        if(head1 == NULL) {
            head1 = new;
            temp = new;
        } else {
            temp -> next = new;
```

```
          temp = temp -> next;
        }
  }
      //free(new);
      new = NULL;
      fclose(fp);
      fp = NULL;
      temp = NULL;
  return head1;
}
void display(struct node *head)
{
      struct node* temp;
            temp = head;
            if(temp == NULL) {
                  printf("List is Empty");
            } else {
               while(temp->next != NULL) {
            printf("%d\t", temp -> id);
               printf("%-20s\t", temp -> name);
                  printf("%-20s\t", temp -> gender);
                  printf("%-20s\t", temp -> occupation);
            printf("%d\n", temp -> age);
                  temp = temp -> next;
                  }
            }
}
void freel(struct node *head)
```

```
{
	struct node *temp = head;
		while(head != NULL) {
		temp = head;
		head = head->next;
		free(temp);
		temp = NULL;
		}
	free(head);
	head = NULL;
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 2sortsll.c

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

struct node {
	int id;
   char name[32];
   char gender[8];
   char occupation[16];
   int age;
   struct node* next;
};

struct node* create();
void display(struct node*);
```

```
void sort(struct node*);


int main ()
{
   struct node * head = NULL;
   head = create();
   //display(head);
      sort(head);
      display(head);
}


struct node* create()
{
   struct node * head1 = NULL;
   struct node* new;
   struct node* temp;
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
      new -> next = NULL;
      if(head1 == NULL) {
            head1 = new;
         temp = new;
      } else {
         temp -> next = new;
```

```
          temp = temp -> next;
        }
   }
   return head1;
}
void display(struct node *head)
{
       struct node* temp = head;
    while(temp->next != NULL) {
       printf("%d\t", temp -> id);
       printf("%-20s\t", temp -> name);
       printf("%-20s\t", temp -> gender);
       printf("%-20s\t", temp -> occupation);
             temp = temp->next;
             printf("\n");

       }
}
/*void display(struct node *temp1)
{
       struct node* temp = temp1;
    while(temp->next != NULL) {
       printf("%d\t", temp -> id);
       printf("%-20s\t", temp -> name);
       printf("%-20s\t", temp -> gender);
       printf("%-20s\t", temp -> occupation);
       printf("%d\n", temp -> age);
       temp = temp -> next;
```

```
  }
}*/

/*void sort(struct node * head)
{
	struct node *temp, *temp1, *change;
	temp = head;
	temp1 = temp -> next;
	while (temp!= NULL) {
		while ( temp1 != NULL) {
			if (*(temp -> name) > *(temp1 -> name)) {
				if (temp == head) {
					change = temp;
					temp -> next = temp1 -> next;
					temp = temp1;
					temp1 -> next = change;
					head = temp1;
				} else {
					change = temp;
					temp -> next = temp1 -> next;
					temp = temp1;
					temp1 -> next = change;
				}
			}
			temp1 = temp1 -> next;
		}
	temp = temp -> next;
	}
```

```
//display(head);
}*/

void sort(struct node *head)
{
	struct node *new,*temp, *head2;
		new = head;
	while(new -> next != NULL) {
	if(head2 == NULL) {
	   head2 = new;
	   temp = head2;
	} else if(*(new -> name) < *(temp -> name)) {
			new -> next = head2;
			head2 = new;
		} else {
			while(temp -> next != NULL) {
		if(*(new -> name) < *(temp -> name)) {
				break;
			}
			new -> next = temp -> next;
				temp -> next =  new;
	 }
		}
		new = new -> next;
	}
  display(head2);
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 3gender.c

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

struct node {
   int id;
   char name[32];
   char gender[8];
   char occupation[16];
   int age;
   struct node* next;
};

struct node *head1, *head2;

struct node* create();
void display(struct node*);

ttle-endian\n");
16 else
17 printf("unknown\n");
18 } else
19 printf("sizeof(short) = %d\n", sizeof(short));
20 exit(0);
21 }int main ()
{
   create();
```

```
        printf("       Male      \n");
    display(head1);
        printf("       Female     \n");
        display(head2);
}
struct node* create()
{
    head1 = NULL;
        head2 = NULL;
    struct node* new;
        struct node* temp;
    struct node* temp2;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
        new -> next = NULL;
                if(*(new -> gender) == 'M') {
                if(head1 == NULL) {
                head1 = new;
                temp = new;
                } else {
                temp -> next = new;
                temp = temp -> next;
                }
                } else if(*(new->gender) == 'F') {
```

```
            if(head2 == NULL) {
            head2 = new;
            temp2 = new;
            } else {
            temp2 -> next = new;
            temp2 = temp2 -> next;
                  }
            }
      }
}
void display(struct node *temp1)
iinclude<stdio.h>
{
      struct node* temp = temp1;
   while(temp != NULL) {
      printf("%d\t", temp -> id);
      printf("%-20s\t", temp -> name);
      printf("%-20s\t", temp -> gender);
      printf("%-20s\t", temp -> occupation);
      printf("%d\n", temp -> age);
      temp = temp -> next;
  }
      printf("\n");
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 4agebuckets.c

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

```
struct node {
        int id;
    char name[32];
    char gender[8];
    char occupation[16];
    int age;
    struct node* next;
};

struct node *head, *head1 ,*head2, *head3, *head4;
void create();
void display(struct node*);
void freel(struct node *);

int main ()
{
    head = NULL;
    head1 = NULL;
        head2 = NULL;
        head3 = NULL;
        head4 = NULL;
    create();
        printf("\nRecords having the age between 21 - 30 \n");
    display(head1);
        printf("\nRecords having the age between 31 - 40 \n");
        display(head2);
        printf("\nRecords having the age between 41 - 50 \n");
```

```
        display(head3);
        printf("\nRecords having the age between 51 - 60 \n");
        display(head4);
    freel(head1);
        freel(head2);
        freel(head3);
        freel(head4);
}
void create()
{
    //struct node * head1 = NULL;
    struct node* new = NULL;
    struct node* temp1 = NULL;
        struct node* temp2 = NULL;
        struct node* temp3 = NULL;
        struct node* temp4 = NULL;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
        new -> next = NULL;
              if ( new -> age > 20 && new -> age <= 30) {
              if(head1 == NULL) {
              head1 = new;
                 temp1 = new;
              } else {
```

```
temp1 -> next = new;
   temp1 = temp1 -> next;
      }
} else if ( new -> age > 30 && new -> age <= 40) {
if(head2 == NULL) {
head2 = new;
   temp2 = new;
} else {
temp2 -> next = new;
   temp2 = temp2 -> next;
      }
} else if (new -> age > 40 && new -> age <= 50) {
      if(head3 == NULL) {
head3 = new;
   temp3 = new;
} else {
temp3 -> next = new;
   temp3 = temp3 -> next;
      }
} else if (new -> age > 50 && new -> age <= 60) {
      if(head4 == NULL) {
head4 = new;
   temp4 = new;
} else {
temp4 -> next = new;
   temp4 = temp4 -> next;
      }
}
```

```
        }


        fclose(fp);
        fp = NULL;
        temp1 = NULL;
                temp2 = NULL;
                temp3 = NULL;
                temp4 = NULL;
   //return head1;
}
void display(struct node *head)
{
        struct node* temp;
                temp = head;
    while(temp != NULL) {
        printf("%d\t", temp -> id);
        printf("%-20s\t", temp -> name);
        printf("%-20s\t", temp -> gender);
        printf("%-20s\t", temp -> occupation);
        printf("%d\n", temp -> age);
        temp = temp -> next;
   }
}
void freel(struct node *head)
{
        struct node *temp = head;
                while(head != NULL) {
                temp = head;
```

```
            head = head->next;
            free(temp);
            temp = NULL;
            }
        free(head);
        head = NULL;
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 5bucket.

cat: 5bucket.: No such file or directory

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 5bucket21-30.c

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

struct node {
        int id;
    char name[32];
    char gender[8];
    char occupation[16];
    int age;
    struct node* next;
};

struct node* create();
void display(struct node*);
void deleting(struct node*);
```

```
int main ()
{
   struct node * head = NULL;
   head = create();
   display(head);
      printf("Deleted ages between 21 and 30 :\n");
      deleting(head);
}
struct node* create()
{
   struct node * head1 = NULL;
   struct node* new;
   struct node* temp;
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
      new -> next = NULL;
      if(head1 == NULL) {
            head1 = new;
         temp = new;
      } else {
         temp -> next = new;
         temp = temp -> next;
       }
```

```
  }
  return head1;
}

void display(struct node *head)
{
        struct node *temp;
    temp = head;
      while(temp->next != NULL) {
            printf("%d\t", temp -> id);
            printf("%-20s\t", temp -> name);
            printf("%-20s\t", temp -> gender);
            printf("%-20s\t", temp -> occupation);
            printf("%d\n", temp -> age);
            temp = temp -> next;
        }
            printf("\n");
}
void deleting(struct node *head)
{
        struct node *temp;
    temp = head;
      while(temp->next != NULL) {
            if ((temp -> age <= 21) || (temp -> age >= 30)) {
            temp = temp -> next;
            } else {
                temp = temp -> next->next;
            }
```

```
            }
        display(head);
                    printf("\n");
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 6increaseage.c

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

struct node {
        int id;
    char name[32];
    char gender[8];
    char occupation[16];
    int age;
    struct node* next;
};
struct node *head;
struct node* create();
void display(struct node*);
void increaseage();


int main ()
{
    head = NULL;
    head = create();
```

```
    display(head);
        increaseage();
        display(head);
}
struct node* create()
{
    struct node * head1 = NULL;
    struct node* new;
    struct node* temp;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
        new -> next = NULL;
        if(head1 == NULL) {
              head1 = new;
           temp = new;
        } else {
           temp -> next = new;
           temp = temp -> next;
         }
   }
   return head1;
}
void display(struct node *head)
{
```

```
        struct node *temp;
    temp = head;
       while(temp->next != NULL) {
                printf("%d\t", temp -> id);
                printf("%-20s\t", temp -> name);
                printf("%-20s\t", temp -> gender);
                printf("%-20s\t", temp -> occupation);
                printf("%d\n", temp -> age);
                temp = temp -> next;
            }
            printf("\n");
            /*printf("_____After increasing age :_____\n");
    temp = head;
       while(temp->next != NULL) {
                printf("%d\t", temp -> id);
                printf("%-20s\t", temp -> name);
                printf("%-20s\t", temp -> gender);
                printf("%-20s\t", temp -> occupation);
                printf("%d\n", (temp -> age+1));
                temp = temp -> next;

            }*/

    }

void increaseage()
{
    struct node *temp;
```

```
        temp = head;
        while(temp -> next != NULL) {
                temp -> age = temp -> age + 1;
                temp = temp -> next;
        }
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 7age45.c

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

struct node {
        int id;
    char name[32];
    char gender[8];
    char occupation[16];
    int age;
    struct node* next;
};

struct node* create();
void display(struct node*);



int main ()
{
```

```
    struct node * head = NULL;
    head = create();
    display(head);
}
struct node* create()
{
    struct node * head1 = NULL;
    struct node* new;
    struct node* temp;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
        new -> next = NULL;
        if(head1 == NULL) {
              head1 = new;
           temp = new;
        } else {
           temp -> next = new;
           temp = temp -> next;
         }
   }
   return head1;
}
void display(struct node *head)
{
```

```
        struct node* temp = head;
            while(temp->next != NULL) {
            printf("%d\t", temp -> id);
            printf("%-20s\t", temp -> name);
          printf("%-20s\t", temp -> gender);
            printf("%-20s\t", temp -> occupation);
            printf("%d\t", temp -> age);
                if ( temp -> age > 45) {
                    printf("Mark for title upgrade");
            }
                temp = temp -> next;
                printf("\n");
            }
}
srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 8delete
8delete          8deletealternate.c
srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 8deletealternate.c

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

struct node {
       int id;
   char name[32];
   char gender[8];
   char occupation[16];
   int age;
```

```
    struct node* next;
};

struct node* create();
void display(struct node*);
void deletealternate(struct node*);
void deletea(struct node*);

int main ()
{
    struct node * head = NULL;
    head = create();
    //display(head);
        //deletealternate(head);
        deletea(head);
        display(head);
}
struct node* create()
{
    struct node * head1 = NULL;
    struct node* new;
    struct node* temp;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d%s%s%s%d", &new -> id, new -> name,new -> gender, new -> occupation,
&new -> age);
```

```
        new -> next = NULL;
        if(head1 == NULL) {
                head1 = new;
           temp = new;
        } else {
           temp -> next = new;
           temp = temp -> next;
         }
   }
   return head1;
        fclose(fp);
        fp = NULL;
}

void deletealternate(struct node *head)
{
                struct node *temp;
        temp = head;
                int i = 1;
                head = temp -> next;
           while(temp->next != NULL) {
                        if ( i%2 == 0) {
                                temp -> next = temp -> next -> next ;
                                i = i + 1;
                        } else {
                                temp = temp -> next;
                                i = i + 1;
                        }
```

```
                        }
        display(head);
}

void display(struct node *head)
{
            struct node *temp;
        temp = head;
           while(temp != NULL) {
                    printf("%d\t", temp -> id);
                    printf("%-20s\t", temp -> name);
                    printf("%-20s\t", temp -> gender);
                    printf("%-20s\t", temp -> occupation);
                    printf("%d\n", temp -> age);
                    temp = temp -> next;
                    }
            printf("\n");
}
void deletea(struct node *head)
{
        struct node *temp = head;
        while(temp->next != NULL) {
                temp -> next  = temp -> next -> next;
                if(temp -> next == NULL) {
                        break;
                }
                temp = temp -> next;
        }
```

```
//display(head);
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 9csll.c

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



struct node {
   int id;
   char name[50];
   char gender[10];
   char occupation[20];
   int age;
   struct node* next;
}*head;



struct node* create();
void display();



int main ()
```

```
{
   head = NULL;
   create();
   display();
}

struct node* create()
{
   struct node* new;
   struct node* temp;
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
      if (head == NULL) {
         head = new;
         temp = new;
      } else {
         temp->next = new;
         temp = temp->next;
      }
            new->next = head;
   }
}
```

```
void display()
{
   struct node* temp = head;
   while(temp->next != head) {
      printf("%d\t", temp->id);
      printf("%-20s", temp->name);
      printf("%-20s", temp->gender);
      printf("%-20s", temp->occupation);
      printf("%d\n", temp->age);
      temp = temp->next;
   }
      printf("\n");
}
srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 10csllj.c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct node {
   int id;
   char name[50];
   char gender[10];
   char occupation[20];
   int age;
   struct node* next;
}*head;

struct node* create();
```

```
void display();
void modify();

int main ()
{
   head = NULL;
   create();
   display();
      modify();
}

struct node* create()
{
   struct node* new;
   struct node* temp;
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
      if (head == NULL) {
         head = new;
         temp = new;
      } else {
         temp->next = new;
         temp = temp->next;
      }
```

```
            new->next = head;
    }
}
void display()
{
    struct node* temp = head;
    while(temp->next != head) {
        printf("%d\t", temp->id);
        printf("%-20s", temp->name);
        printf("%-20s", temp->gender);
        printf("%-20s", temp->occupation);
        printf("%d\n", temp->age);
        temp = temp->next;
    }
        printf("\n");
}
void modify()
{
        struct node *temp , *temp1, *change;
        temp = head;
        temp1 = head;
        printf("After sorting :\n");
        while (temp -> next != NULL) {
                while (temp1 -> next != NULL) {
                        if(*(temp -> name) < *(temp1 -> name)) {
                                if (temp = head) {
                                        head = temp1;
                                        temp1 = temp;
```

```
                        } else {
                                change = temp;
                                temp = temp1;
                                temp1 = temp;
                        }
                }
            temp1 = temp1 -> next;
            }
        temp = temp -> next;
        }
display(head);
}
```

```
srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 11
11engineer        11printengineer.c
srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 11printengineer.c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct node {
   int id;
   char name[50];
```

```
    char gender[10];
    char occupation[20];
    int age;
    struct node* next;
}*head;

struct node* create();
void display(struct node*);
void display1();

int main ()
{
    head = NULL;
    create();
    display(head);
        display1();
        display(head);
}

struct node* create()
{
    struct node* new;
    struct node* temp;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
```

```
      ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
      if (head == NULL) {
         head = new;
         temp = new;
      } else {
         temp->next = new;
         temp = temp->next;
      }
            new->next = head;
   }
}

void display(struct node *head)
{
   struct node* temp = head;
   while(temp->next != head) {
      printf("%d\t", temp->id);
      printf("%-20s", temp->name);
      printf("%-20s", temp->gender);
      printf("%-20s", temp->occupation);
      printf("%d\n", temp->age);
      temp = temp->next;
   }
      printf("\n");
}

void display1()
{
```

```
    struct node* temp = head;
    while (temp -> next != head) {
            if ( *(head -> occupation) == 'E') {
                head = head -> next;
            }
            if (*(temp -> next -> occupation) == 'E') {
                if( temp == head) {
                    head = temp -> next;
                    temp = head;
                } else {
                    temp -> next = temp -> next -> next;
                    temp = temp ->next;
                }
            }      else {
       temp = temp->next;
            }
    }
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 12addid.c

10csllj 13csllageocc.c 3gender.c 7age45 a.out sllp

10csllj.c 15dll.c 4agebuckets 7age45.c cdll sort

11engineer 1sllrint.c 4agebuckets.c 8delete csll

11printengineer.c 24cdll.c 5bucket 8deletealternate.c dllprint

12addid 2sortsll 5bucket21-30.c 9csll.c gender

12addid.c 2sortsll.c 6increaseage.c Club_Membership_2022.txt increadeage

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 12addid.c

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

struct node {
   int id;
   char name[50];
   char gender[10];
   char occupation[20];
   int age;
   struct node* next;
      }*head;

struct node* create();
void display(struct node*);
struct node *addid(struct node*);
void freel(struct node*);


int main ()
{
   head = NULL;
   create();
   display(head);
      printf("After adding id with 100 :");
      addid(head);
      display(head);
      freel(head);
```

```
}

struct node* create()
{
   struct node* new;
   struct node* temp;
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
      if (head == NULL) {
         head = new;
         temp = new;
      } else {
         temp->next = new;
         temp = temp->next;
      }
            new->next = head;
   }
fclose(fp);
fp = NULL;
temp = NULL;
}

void display(struct node *temp)
{
```

```
    struct node* tempo = temp;
    while(tempo->next != head) {
        printf("%d\t", tempo->id);
        printf("%-20s", tempo->name);
        printf("%-20s", tempo->gender);
        printf("%-20s", tempo->occupation);
        printf("%d\n", tempo->age);
        tempo = tempo->next;
    }
        printf("\n");
}
struct node *addid(struct node *head)
{
        struct node *temp;
        temp = head;
        while (temp -> next != head) {
                temp -> id = temp -> id + 100;
                                temp = temp -> next;
    }
}

void freel(struct node *head)
{
        struct node *temp = head;
                while(head != NULL) {
                temp = head;
                head = head->next;
                free(temp);
```

```
            temp = NULL;
            }
       //free(head);
      // head = NULL;
}
/*void display1(struct node *head)
{
   struct node* temp = head;
   while(temp->next != head) {
      printf("%d\t", temp->id+100);
      printf("%-20s", temp->name);
      printf("%-20s", temp->gender);
      printf("%-20s", temp->occupation);
      printf("%d\n", temp->age);
      temp = temp->next;
   }
      printf("\n");
}*/

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 13csllageocc.c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct node {
   int id;
   char name[50];
   char gender[10];
```

```
    char occupation[20];
    int age;
    struct node* next;
}*head;

struct node* create();
void display();

int main ()
{
    head = NULL;
    create();
    display();
}

struct node* create()
{
    struct node* new;
    struct node* temp;
    FILE *fp = NULL;
    fp = fopen("Club_Membership_2022.txt", "r");
    int ch;
    while(ch != EOF) {
        new = (struct node* ) malloc (sizeof(struct node));
        ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
        if (head == NULL) {
            head = new;
            temp = new;
```

```
        } else {
            temp->next = new;
            temp = temp->next;
        }
                new->next = head;
    }
}

void display()
{
    struct node* temp = head;
    while(temp->next != head) {
        printf("%d\t", temp->id);
        printf("%-20s", temp->name);
        printf("%-20s", temp->gender);
        printf("%-20s", temp->occupation);
        printf("%d\n", temp->age);
        temp = temp->next;
    }
        printf("\n");
}
srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 15dll.c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
```

```
struct node {
   int id;
   char name[50];
   char gender[10];
   char occupation[20];
   int age;
      struct node* prev;
   struct node* next;
}*head;
void create();
void display();
int main ()
{
   head = NULL;
   create();
   display();
}
void create()
{
   head = NULL;
   struct node* new;
   struct node* temp;
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
```

```
        new->next = NULL;
        if (head == NULL) {
           head = new;
           temp = new;
                    new->prev = NULL;
        } else {
           temp->next = new;
                    new->prev = temp;
           temp = temp->next;
        }
    }
}
void display()
{
    struct node* temp = head;
    while(temp->next != NULL) {
        printf("%d\t", temp->id);
        printf("%-20s", temp->name);
        printf("%-20s", temp->gender);
        printf("%-20s", temp->occupation);
        printf("%d\n", temp->age);
        temp = temp->next;
    }
        printf("\n");
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ cat 24cdll.c

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

```
#include <string.h>

struct node {
   int id;
   char name[50];
   char gender[10];
   char occupation[20];
   int age;
   struct node* prev;
   struct node* next;
}*head;

void create();
void display();

int main ()
{
   head = NULL;
   create();
   display();
}



void create()
{
   head = NULL;
   struct node* new;
   struct node* temp;
```

```
   FILE *fp = NULL;
   fp = fopen("Club_Membership_2022.txt", "r");
   int ch;
   while(ch != EOF) {
      new = (struct node* ) malloc (sizeof(struct node));
      ch = fscanf(fp, "%d %s %s %s %d", &new->id, new->name, new->gender, new->occupation,
&new->age);
      if (head == NULL) {
         head = new;
         temp = new;
         new->prev = new;
      } else {
         temp->next = new;
         new->prev = temp;
         temp = temp->next;
      }
            new->next = head;
   }
}

void display()
{
   struct node* temp = head;
   while(temp->next != head) {
      printf("%d\t", temp->id);
      printf("%-20s", temp->name);
      printf("%-20s", temp->gender);
      printf("%-20s", temp->occupation);
      printf("%d\n", temp->age);
```

```
        temp = temp->next;
    }
        printf("\n");
}
```

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$ ls

10csllj 11printengineer.c 13csllageocc.c 24cdll.c 3gender.c 5bucket 7age45 8deletealternate.c a.out dllprint sllp

10csllj.c 12addid 15dll.c 2sortsll 4agebuckets 5bucket21-30.c 7age45.c 9csll.c cdll gender sort

11engineer 12addid.c 1sllrint.c 2sortsll.c 4agebuckets.c 6increaseage.c 8delete Club_Membership_2022.txt csll increadeage

srilatha@GESLMP22WP7T:~/Experiments/datastructures/singlell$