```
typedef struct nodestruct *nodetype;
struct nodestruct {
     int  data;
     nodetype  next;
};
#include<stdio.h>
#include<stdlib.h>
nodetype  createlinklist(nodetype first) {
     nodetype newnode;
     int a;
     printf("Input integer number (0 for stop) \n");
     scanf("%d",&a);
     while (a != 0) {
          newnode = (nodetype)malloc(sizeof(nodestruct));
          newnode->data = a;
          newnode->next = first;
          first = newnode;
          scanf("%d",&a);
     }
     return(first);
}
```

```
void printlist(nodetype first,char code){
     nodetype  temp;
     temp = first;
     if (code == 'i')
          printf("integer number in linked list :");
     else if(code =='e')
          printf("even number in linked list :");
     else printf("odd number in linked list :");
     while (temp != NULL){
          printf("   %d",temp->data);
          temp = temp->next;
     }
     printf("\n");
}

nodetype oddnumber(nodetype first){
     nodetype newnode,temp,odd;
     int number;
     temp = first;
     odd = NULL;
     while (temp != NULL){
          number = temp->data;
          if (number % 2 != 0){
               newnode = nodetype)malloc(sizeof(nodestruct));
               newnode->data = number;
```

```
                newnode->next = odd;
                odd = newnode;
           }
           temp = temp->next;
     }
     return(odd);
}
nodetype evennumber(nodetype first){
     nodetype newnode,temp,even;
     int number;
     even = NULL;
     temp = first;
     while (temp != NULL){
          number = temp->data;
          if (number % 2 == 0){
               newnode = nodetype)malloc(sizeof(nodestruct));
                newnode->data = number;
                newnode->next = even;
                even = newnode;
           }
          temp = temp->next;
     }
     return(even);
}
```

```
int main(void){
     nodetype first,odd,even;
     first = NULL;
     first = createlinklist(first);
     printlist(first,'i');
     odd = oddnumber(first);
     even = evennumber(first);
     printlist(odd,'o');
     printlist(even,'e');
}
```