package mypackage;

import java.util.\*;

import java.util.Iterator;

public class lisp1

{

ArrayList<Integer> al=new ArrayList<Integer>();

ArrayList<Integer> al2=new ArrayList<Integer>();

ArrayList<Integer> al3=new ArrayList<Integer>();

Scanner s=new Scanner(System.in);

int ch;

public void create()

{

System.out.println("\n enter the total number of elements:\n");

ch=s.nextInt();

System.out.println("\n enter the numbers one by one:\n");

int i=0;

while(i<ch)

{

int p=s.nextInt();

al.add(p);

System.out.println(al);

i++;

}//while close

}//method close

public void displaylist()

{

System.out.println(al);

}//close method

public Object car()

{

return al.get(0);

}

public void cdr()

{

/\*int i=1;

while(i<ch)

{

System.out.println("\t"+al.get(i));

i++;

}

}\*/

Iterator itr;

itr=al.iterator();

itr.next();

while(itr.hasNext())

{

int c=(Integer)itr.next();

al2.add(c);

}//while close

System.out.println(al2);

}//method close

Scanner s1=new Scanner(System.in);

public void cons()

{

System.out.println("\n enter the number to be added\n");

int ch=s1.nextInt();

al.add(0,ch);

System.out.println("\n now the new string is..\n");

System.out.println(al);

}

public void length()

{

int ch=al.size();

System.out.println(ch);

}

public void nthcdr()

{

int ch=s1.nextInt();

int pos=al.indexOf(ch);

Iterator itr;

itr=al.listIterator(pos+1);

while(itr.hasNext())

{

int c=(Integer)itr.next();

al3.add(c);

System.out.println(al3);

}//while close

}//method close

public void setcar()

{

System.out.println("\n enter the number with which the first element has to be replaced with\n");

int ch=s1.nextInt();

al.set(0,ch);

System.out.println(al);

}

public void setcdr()

{

int pos=1;

al.subList(1,al.size()).clear();

System.out.println("\n enter the total number ofelements\n");

int ch=s1.nextInt();

int i=0;

while(i<ch)

{

int pl=s1.nextInt();

al.add(pos,pl);

pos++;

i++;

}

System.out.println("the new list now is\n"+al);

}

public void nthlist()

{

int c=0;

System.out.println("\n enter the position\n");

int pos=s1.nextInt();

if(pos<al.size())

{

System.out.println(al.get(pos));

c=1;

}

if(c==1)

System.out.println("\nthe element is present\n");

else

System.out.println("\nthe element is not present:NULL\n");

}//method close

public void first\_last()

{

System.out.println("the first element is:\n"+al.get(0));

int len=al.size();

System.out.println("the last element is:\n"+al.get(len-1));

}//method close

public void secondnum()

{

System.out.println("\nthe second number in the list is\n");

System.out.println(al.get(1));

}//close method

}//class close

MAIN PROGRAM:

import mypackage.lisp1;

import java.util.\*;

import java.io.\*;

import java.util.Iterator;

public class proc1

{

public static void main(String arg[])

{

lisp1 l=new lisp1();

ArrayList<Integer> al1=new ArrayList<Integer>();

Scanner s=new Scanner(System.in);

do{

System.out.println("\n1.create list\n2.display list\n3.get the first number");

System.out.println("4.print elements except the first one\n5.add the getting number as the first element");

System.out.println("6.number of elements in the list\n7.display the list from the given element");

System.out.println("8.replacing the first element with the element got from the user");

System.out.println("9.appending the list after the second position\n10.print the nth element in the list");

System.out.println("11.printing the first and the last element\n12.print the second element");

System.out.println("\n enter the choice:\n");

int ch=s.nextInt();

switch(ch)

{

case 1:

{

l.create();

break;

}

case 2:

{

l.displaylist();

break;

}

case 3:

{

int n=(Integer)l.car();

System.out.println(n);

break;

}

case 4:

{

l.cdr();

//System.out.println(al1);

break;

}

case 5:

{

l.cons();

break;

}

case 6:

{

l.length();

break;

}

case 7:

{

l.nthcdr();

break;

}

case 8:

{

l.setcar();

break;

}

case 9:

{

l.setcdr();

break;

}

case 10:

{

l.nthlist();

break;

}

case 11:

{

l.first\_last();

break;

}

case 12:

{

l.secondnum();

break;

}

default:

{

System.out.println("\nerror!");

System.exit(1);

break;

}

}//switch close

}while(true);

}//close method

}//class close

SAMPLE INPUT AND OUTPUT:

C:\java>java proc1

1.create list

2.display list

3.get the first number

4.print elements except the first one

5.add the getting number as the first element

6.number of elements in the list

7.display the list from the given element

8.replacing the first element with the element got from the user

9.appending the list after the second position

10.print the nth element in the list

11.printing the first and the last element

12.print the second element

enter the choice:

1

enter the total number of elements:

4

enter the numbers one by one:

1

[1]

2

[1, 2]

3

[1, 2, 3]

4

[1, 2, 3, 4]

1.create list

2.display list

3.get the first number

4.print elements except the first one

5.add the getting number as the first element

6.number of elements in the list

7.display the list from the given element

8.replacing the first element with the element got from the user

9.appending the list after the second position

10.print the nth element in the list

11.printing the first and the last element

12.print the second element

enter the choice:

2

[1, 2, 3, 4]

1.create list

2.display list

3.get the first number

4.print elements except the first one

5.add the getting number as the first element

6.number of elements in the list

7.display the list from the given element

8.replacing the first element with the element got from the user

9.appending the list after the second position

10.print the nth element in the list

11.printing the first and the last element

12.print the second element

enter the choice:

3

1

1.create list

2.display list

3.get the first number

4.print elements except the first one

5.add the getting number as the first element

6.number of elements in the list

7.display the list from the given element

8.replacing the first element with the element got from the user

9.appending the list after the second position

10.print the nth element in the list

11.printing the first and the last element

12.print the second element

enter the choice:

4

[2, 3, 4]

1.create list

2.display list

3.get the first number

4.print elements except the first one

5.add the getting number as the first element

6.number of elements in the list

7.display the list from the given element

8.replacing the first element with the element got from the user

9.appending the list after the second position

10.print the nth element in the list

11.printing the first and the last element

12.print the second element

enter the choice:

5

enter the number to be added

5

now the new string is..

[5, 1, 2, 3, 4]

1.create list

2.display list

3.get the first number

4.print elements except the first one

5.add the getting number as the first element

6.number of elements in the list

7.display the list from the given element

8.replacing the first element with the element got from the user

9.appending the list after the second position

10.print the nth element in the list

11.printing the first and the last element

12.print the second element

enter the choice:

7

1

[2]

[2, 3]

[2, 3, 4]