Q.3) 1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

**package** number\_patterns;

**public** **class** prog1\_1234\_traingle {

**public** **static** **void** main(String[] args) {

**int** count=0;

**for**(**int** i=1;i<=5;i++) {

**for**(**int** j=1;j<=i;j++) {

count=count+1;

System.***out***.print(count);

}

System.***out***.println();

}

}

}

Q.6) 1

2 1

3 2 1

4 3 2 1

5 4 3 2 1

**package** number\_patterns;

**public** **class** q6\_1234traingle {

**public** **static** **void** main(String[] args) {

**for**(**int** i=1;i<=5;i++) {

**for**(**int** j=i;j>=1;j--) {

System.***out***.print(j);

}

System.***out***.println();

}

}

}

**package** number\_patterns;

//101010

//010101

//101010

//010101

Q.7) 7)

10101

01010

10101

01010

10101

//101010

**public** **class** q7\_0101\_pattern {

**public** **static** **void** main(String[] args) {

**for**(**int** i=1;i<=5;i++) {

**int** num;

**if**(i%2==0) {

num=0;

System.***out***.print(num);

}

**else** {

num=1;

System.***out***.print(num);

}

**for**(**int** j=1;j<=5;j++) {

**if**(num==1) {

num=0;

}

**else** {

num=1;

}

System.***out***.print(num);

} System.***out***.println();

Q 8)

1

10

101

1010

10101

**package** number\_patterns;

//1

//10

//101

//1010

//10101

**public** **class** q8\_1\_10\_101\_program {

**public** **static** **void** main(String[] args) {

**for**(**int** i=0;i<=5;i++) {

**for**(**int** j=1;j<=i;j++) {

**if**(j%2==0) {

System.***out***.print("0");

}

**else** {

System.***out***.print("1");

}

}

System.***out***.println(" ");

}

}

}

Q.12)

A

A B

A B C

A B C D

A B C D E

A B C D E F

**package** alphabet\_patterns;

//A

//AB

//ABC

//ABCD

//ABCDE

//ABCDEF

**public** **class** q12\_A\_AB\_ABC\_ABCD {

**public** **static** **void** main(String[] args) {

**int** letter=65;

**for**(**int** i=0;i<=5;i++) {

**for**(**int** j=0;j<=i;j++)

{

System.***out***.print((**char**)(letter+j));

}

System.***out***.println();

}

}

}

Q.11)

A B C D E F

A B C D E

A B C D

A B C

A B

A

A

A B

A B C

A B C D

A B C D E

A B C D E F

**package** alphabet\_patterns;

**public** **class** Q11\_ABCD\_ascen\_desce\_Combine {

**public** **static** **void** main(String[] args) {

**int** letter=71;

**for**(**int** i=1;i<=6;i++) {

**for**(**int** j=6; j>=i;j--) {

System.***out***.print((**char**)(letter-j));

}

System.***out***.println();

}

**int** letter1=65;

**for**(**int** i=0;i<=5;i++) {

**for**(**int** j=0;j<=i;j++)

{

System.***out***.print((**char**)(letter1+j));

}

System.***out***.println();

}

}

}

1. Write a Java program to create a new array list, add some colors (string) and print out the collection.

**import** java.util.ArrayList;

**public** **class** q1\_create\_addelements {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

ArrayList<String> l1=**new** <String> ArrayList();

l1.add("red");

l1.add("black");

l1.add("blue");

l1.add("green");

System.***out***.println("colors in arraylist are");

**for**(String colors:l1) {

System.***out***.println(colors);

}

}

}

Output:

colors in arraylist are

red

black

blue

green

2. Write a Java program to insert an element into the array list at the first position.

**import** java.util.ArrayList;

**public** **class** q2\_addEleemntsAtFirstPos {

**public** **static** **void** main(String[] args) {

ArrayList<String>l1=**new**<String>ArrayList();

l1.add("yellow");

l1.add("green");

l1.add("blue");

System.***out***.println("arraylist before insertion"+l1);

String newelement="red";

l1.add(0,newelement);

System.***out***.println("arraylist after insertion ata first postion"+l1);

}

}

Write a Java program to retrieve an element (at a specified index) from a given array list.

**import** java.util.ArrayList;

**public** **class** q3\_RetriveElementsAtSpecificPostion {

**public** **static** **void** main(String[] args) {

ArrayList a1=**new** ArrayList();

a1.add("welcome");

a1.add(10);

a1.add(78.90);

System.***out***.println("value at postion 2 is "+a1.get(2));

}

}

Output:

value at postion 2 is 78.9

4. Write a Java program to sort a given array list.

**import** java.util.ArrayList;

**import** java.util.Collections;

**public** **class** q4\_sort\_ArrayList {

**public** **static** **void** main(String[] args) {

ArrayList l1=**new** ArrayList();

l1.add("X");

l1.add("A");

l1.add("Y");

l1.add("M");

l1.add("V");

System.***out***.println("before sorting"+l1);

Collections.*sort*(l1);

System.***out***.println("after sorting"+l1);

}

}

Output

before sorting[X, A, Y, M, V]

after sorting[A, M, V, X, Y]

5. Write a Java program to reverse elements in a array list.

**import** java.util.ArrayList;

**import** java.util.Collections;

**public** **class** q5\_ReverseArrayListElements {

**public** **static** **void** main(String[] args) {

ArrayList l1=**new** ArrayList();

l1.add(10);

l1.add(20);

l1.add(90);

l1.add(15);

System.***out***.println("elemnts before reversiong"+l1);

Collections.*reverse*(l1);

System.***out***.println("elements after reversing"+l1);

}

}

OUTPUT

elemnts before reversiong[10, 20, 90, 15]

elements after reversing[15, 90, 20, 10

Write a Java program of swap two elements in an array list.

**import** java.util.ArrayList;

**import** java.util.Collections;

**public** **class** q6\_swap\_two\_elementsOfArrayList {

**public** **static** **void** main(String[] args) {

ArrayList l1=**new** ArrayList();

l1.add(56);

l1.add(22);

l1.add(90);

System.***out***.println("before swapping"+l1);

//int index1=1;

//int index2=2;

Collections.*swap*(l1,1,2);

System.***out***.println("after swapping"+l1);

Output:

before swapping[56, 22, 90]

after swapping[56, 90, 22]

7. Write a Java program to print all the elements of a ArrayList using the position of the elements.

**import** java.util.ArrayList;

**public** **class** q7PrintarrayListElementsWithTheirPostitions {

**public** **static** **void** main(String[] args) {

ArrayList l1=**new** ArrayList();

l1.add("Mamta");

l1.add("Vaishnav");

l1.add(25);

System.***out***.println("elekmts of arraylist with their psotion are as follwos:");

**for**(**int** i=0;i<l1.size();i++)

System.***out***.println("postion"+" "+i+" "+l1.get(i));

}

}

Output

elekmts of arraylist with their psotion are as follwos:

postion 0 Mamta

postion 1 Vaishnav

postion 2 25