

11. Describe the output of each program segment.

(a)

```
for (int i = 6; i > 0; --i)
    System.out.println( i );
```

(b)

```
for (int i = 6; i != 7; --i)
    System.out.println( i );
```

(c)

```
for (int i = 6; i < 0; ++i)
    System.out.println( i );
```

(d)

```
for (int i = 6; i < 0; --i)
    System.out.println( i );
```

12. State the output of each program:

(a)

```
int x = 1;
while ( x < 20) {
    if (x % 4 == 0)
        System.out.print( x + "\t" );
    x++;
}
System.out.println( );
```

(b)

```
int x = 100;
do {
    if (x % 5 == 0)
        System.out.println(x * 2);
    x /= 2;
} while (x > 0);
```

(c)

```
public static void main(String str[ ]) {
    char alpha = str[0].charAt(0);
    for (int x = 1; x <= 6; x++) {
        for(int y = 1; y <= 7 - x; y++)
            System.out.print(alpha);
        System.out.println( );
    }
}
```

13. Write a program, using a while loop, to display all even numbers between x and y, where x and y are two integer input values.

14. Write a program to output the perfect squares between x and y. The output should be in rows of 5 numbers. x and y are input values.

Sample:

Input-> 2 20

Output->

```
4 9 16 25 36
49 64 81 100 121.....
```

15. The braking distance of an average car is 0.06 times the square of the car's speed. Write a program to list the relationship between distance and speed for speeds ranging from 20 to 100 km/h in intervals of 10.

16. Write a program that generates the Pythagorean Triples between 1 and 1000. Search the Net for an appropriate formula.