(5) (ii)

0.3
0.03
0.003
0.0003
0.00003

```
class Pattern2
{
  psvm (String arg[])
  {
    double a = 0.3;
    for( int i=1; i<=5; i++)
    {
      Sop m(a);
      a= a/10.0;
    }
  }
}
```

i	a	Output
1	0.3	0.3
	0.03	
2		0.03
	0.003	
3		0.003
	0.0003	
4		0.0003
	0.00003	
5		0.00003

```
class Pattern
{
  psvm(String args[])
  {
    for(int i=5; i>=1; i--)
    {
      for(int j=i; j>=1; j--)
```

```
class Pattern
{
  psvm(String args[])
  {
    for(int i=5; i>=1; i--)
    {
      for(int j=i; j>=1; j--)
      {
        Sop('*');
      }
      Sopln();
    }
  }
}
```

* While loop

* It is an entry controlled loop

* while (condition)
```
{
    statement(s);
}
```

* Semi colon is not used after while

* do-while loop

* It is an exit controlled loop.

* do
```
{
    statement(s);
}
while(condition);
```

* Semi colon is used after while.

Q Make an infinite loop using while loop.

Ans⇒

```
while(true)
{
  Sopln("Welcome");
}
```

OR

```
int i = 1;
while (i > 0)
{
    Sopln(i);
    i++;
}
```

for	while
* It is based on counting.	* It is based on result of the given
* A for loop is used where the no of repetitions can be predicted or calculated or is known beforehand	* A while loop is used where the no of repetitions cannot be predicted or calculated or is not known beforehand.

* Eg
int i
for(i=1; i<=10, i++)
{
statement(s),
}
	int i = 1;
	while(i<=10)
	{
	statement(s),
	i = i+1;
	}

Variable Description

Variable name	datatype	Use

Q Convert the following for loop into while loop

(1)
```
for (int i=10; i >= 0; i--)
{
  Sop ln( i);
}
```

Ans ⇒
```
int i= 10;
while ( i>=0)
{
  Sopln (i);
  i--;
}
```

(2)
```
int x = 10;
for( int i = 1 ; i <= 5; i++)
{
  Sop ln (x);
  x = x + 5;
}
```

```
int x = 10;
int i = 1;
while ( i <= 5)
{
  Sop ln ( x);
  x = x + 5;
```

```
i++;
}
```

Q WAP to enter a no. & print no. of digits it contains.

Ans ⇒

```
import java.util.Scanner;
class fun
{
  psvm( String args[])
  {
    Scanner ob = new Scanner(System.in);
```

```
Sopln("Enter a no ");
int n= ob nextInt();
int c= 0;
while(n > 0)
{
  c++;
  n= n/10;
}
Sopln("No of digits = " + c);
}
}
```

n	c	Output
239	0	No of digits = 3
23	1	
2	2	
0	3	

$0 > 0$ false

$\frac{2}{10} = 0$


All The Best for
your test