

Assignment - S

1.

```
import java.util.*;
```

Class Prime12

{

```
public static void main (String [] args)
```

{

```
int n, lastdigit, c = 0;
```

```
Scanner sc = new Scanner (System.in);
```

```
System.out.print ("Enter your choice ");
```

```
System.out.print ("1. Prime Number ");
```

```
System.out.print ("2. Automorphic number ");
```

```
int ch = sc.nextInt();
```

```
switch (ch)
```

{

Case 1:

```
System.out.print ("Enter a number ");
```

```
n = sc.nextInt();
```

```
for (i=1; i<=n; i++)
```

```
{ if (n % i == 0)
```

```
c++;
```

}

3

```
if (c == 2)
```

System.out.println ("Prime Number");
 else

System.out.println ("Not a Prime Number");
 break;

Case 2 :

System.out.println ("Enter a number");

int num = sc.nextInt();

int sgr, t, p=0;

sgr = num * num;

t = num;

do

{

c + t;

t = t/10;

} while (t > 0);

double d = sgr % (Math.pow(10, c));

if (n == d)

System.out.println ("Automorphic Number");

else

System.out.println ("Not an Automorphic No.");

break;

default:

System.out.println ("Invalid Choice");

break;

}

}

Q.

`import java.util.*;`

`Class X`

`{`

`public static void main (String [] args)`

`{`

`int n, t, d ;`

`Scanner sc = new Scanner (System.in) ;`

`System.out.print ("Enter your choice ") ;`

`System.out.print ("1. Buzz Number ") ;`

`System.out.print ("2. GCD ") ;`

`int ch = sc.nextInt () ;`

`switch (ch)`

`{`

`Case 1 :`

`System.out.print ("Enter a number ") ;`

`n = sc.nextInt () ;`

`while (n > 0)`

`{`

`d = n % 10 ;`

`}`

`if (d == 7 || n % 7 == 0)`

`{`

`System.out.print ("Buzz No.") ;`

`}`

}

System.out.println ("Not a Buzz No.");

break;

Case 2:

System.out.println ("Enter two numbers");

int num1 = sc.nextInt();

int num2 = sc.nextInt();

t = (a > b) ? a : b;

while (b % a != 0)

{

int r = a % b;

b = a;

a = r;

}

System.out.println ("GCD is :" + a);

break;

default:

System.out.println ("Invalid Choice");

break;

}

}

3.

```
import java.util.*;
```

Class Menudriven3

{

```
public static void main (String [ ] args)
```

{

```
int r, n, d, s = 0, a ;
```

```
Scanner sc = new Scanner (System.in);
```

```
System.out.print ("Enter your Choice ");
```

```
System.out.print ("1. Palindrome No. ");
```

```
System.out.print ("2. Perfect No. ");
```

```
int ch = sc.nextInt();
```

```
switch (ch)
```

{

Case 1:

```
System.out.print ("Enter a number ");
```

```
n = sc.nextInt();
```

```
while (n > 0)
```

{

```
d = n % 10 ;
```

```
r = r * 10 + d ;
```

```
n = n % 10 ;
```

}

```
if (n == r)
```

```
System.out.println ("Palindrome No. ");
```

System.out.println ("Not a Palindrome No.");
break;

Case 2:

System.out.println ("Enter a number");

a = sc.nextInt();

~~while~~

for (int i=1; i<a; i++)

{

if ($n \% i == 0$)

{

s = s + i;

}

} if ($s == n$)

System.out.println ("Perfect No.");

else

System.out.println ("Not a Perfect No.");

break;

default:

System.out.println ("Invalid Choice");

break;

}

}

4.

While and Do-while loops are used when number of iterations are not fixed.

Do-while loop guarantees that the loop will execute at least one time whereas while do not guarantees that the loop will execute at least

5.

```
int a=10, b=15;
for (int i=0; i<6; i++)
    a = a+3
```

$a = a + 3$

$b--;$

System.out.println ("a = " + a);
 System.out.println ("b = " + b);

i	a	b	c
0	10+3	15	✓
1	13+3	14	✓
2	16+3	13	✓
3	19+3	12	✓
4	22+3	11	✓
5	25+3	10	✓
6		9	X

$$a = 28, b = 9$$