(1) Sol:-

```
import java.util.Scanner;
Public class Newclass
{
Public static void Main (String[]
                    args)
{
Scanner input = New Scanner (System.
                    in);
System.Out.Print ("Enter a year:");
int year = input.nextInt();
input.nextline();
System.Out.print ("Enter a month:");
String Month = input.nextline();
boolean isleapyear = ((year %4==0
    && year %100 != 0) ||
    year %400==0));
Switch (Month)
{
```

```
Case "Jan":
Case "Mar":
Case "May":
Case "July":
Case "aug":
Case "Oct":
Case "Dec":
System.Out.println(Month+" "+year
        "has 31 days"); break;
Case "Apr";
Case "Jun";
Case "Sep":
Case "Nov":
System.out.println(Month+" "+year
        "has 30 days"); break;
Case "Feb":
        System.Out.println(Month+
    " "+year+"has 28 days")
}
}
```

(2) Sol:

```
import java.util.Scanner;
Public class majorstatus{
Public static void main(string[]
                        args)
{
Scanner input = new Scanner(system.in);
system.Out.print("Enter two characters:");
string s = input.next line();
-(s.charAt(0)=='_')
System.out.print('Mathematics");
- (s.chatAt(0)_'_')
system.out.print('Cs');
-(s.chatAr(0)-'_')
system.out.print('Information technolo
                        -gy);
-(s:chatAt(0)_'_')
```

System.out.print("Input Major Code");

System.exit()

}

o/p:- Input Invalid.

(5) sol:-

import java.util.Scanner;

Public class checkSocialSecurity.

if ynumber = 04-21

{

Public static void Main (String[]

args)

{

Scanner input = new Scanner (System.in);

System.out.print("Enter a

SSN: ");

```
boolean isValid = ssn.length() == 11 &&
    ssn.charAt(0) <= '9' && ssn.charAt(0) >=
                                '0' &&
    Character.isDigit(ssn.charAt(5)) &&
        ssn.charAt(6) == '-' &&
    Character.isDigit(ssn.charAt(7)) &&
     Character.isDigit(ssn.charAt(8)) &&
     Character.isDigit(ssn.charAt(10));
if (isValid)
    System.out.println(ssn + " is a
            valid social security number");
else
    System.out.println(ssn + " is an
            invalid social security number");
  }
}
```

(4) Sol:-

```
import java.util.Scanner;
Public class Exercise-04-22
{
 Public static void main(String[]
                          args)
 {
 Scanner in = new Scanner(System.in);
 System.out.Print("Enter string s1:");
 string s1 = in nextline();
 System.out.Print("Enter string
                          s2:");
 string s2 = in.nextline();
 if(s1.indexof)s2 != -1
 {
   System.out.Printf("%.s is
      a substring of %.s\n",
                    s2, s1);
 }
```

```
else
{
    System.out.printf("%s is not
        a substring of %s\n",
        s2, s1);
}
}
}
```

(b) Sol:-

Employee's name (e.g... Smith)

Number of hours worked in a week (e.g. 10)

Hourly Pay rate (e.g. 9.75)

federal tax withholding rate (20%)

state tax withholding rate (9%)

Enter Employee name:-

Smith

Enter numter of hours worked

in a week : 10.

Enter hourly pay rate : 9.75

Withholding rate : 0.20.

tax withholding rate : 0.09

Employee Name : Smith.

Hours Worked : 10.0

Pay Rate : $9.75

Deduction :-

Federal withholding (20.0%)

-: $19.5

state Withholding (9.01.):

$8.77

total Deduction : $28.27

Net pay : $69.22

(6)
```
import java.util.Scanner;
Public class orderTwoCities
{
Public static void main(String[]args)
{
Scanner input = new Scanner(system.in);
system.out.print("Enter the first
                  city:");
string city1 = input.nextline();
system.out.print("Enter the Second
                  city:");
string city2 = input.nextline();
system.out.print("Enter the third
                  city:");
string city3 = input.nextline();
if(city1.Compareto(city2)<0 &&
   city2.Compareto(city3)<0)
```

```
system.out.println("The cities in
    alphabetical order are" +
    city1+" "+city2+" "+city3);
else
    system.out.println("The
    cities in alphabetical order
    are" + city3+" "+city2+" "+
    city1);
    }
}
```

(7.) Sol:-

```
import java.util.Scanner;
Public class main{
Public static void Main
(String[] args)
```

{

Scanner input = new Scanner (System.

System.out.print("Enter a letter

grade:").

char grade = input.nextline().charAt(0)

int value = 0;

System.out.println("The numeric

value for grade "+grade+

"is "+value);

}

}

(8) sol:-

Public class Exercise-04-08

{

Public static void main

(String[] args)

{

Scanner input = new Scanner (System.in);

System.out.print("Enter an ASCII Code : ");

int i = input.nextInt();

System.out.print((char) i);

}

}

(9) Sol:

lines = 10

i = 1

j = 1

while i <= lines :

↳ # this loop is used to print the lines.

```
j=1
while j<=i: # this loop is used to
                print lines.
    temp=i*j
    print(temp, end=" ", flush=true)
    print(" ", end=" ", flush=true)
    j=j+1
    print(" ")
    i=i+1;
    print(" ");
    i=i+1;
```

o/p:

```
1
1 2 1
1 2 4 2 1
1 2 4 8 4 2 1
1 2 4 8 16 8 4 2 1
1 2 4 8 16 32 16 8 4 2 1
1 2 4 8 16 32 64 32 16 8 4 2 1
1 2 4 8 16 32 64 128 64 32 16
```

(10) Sol:

```
public static void Main (String
                [] args)
{
Scanner input = new Scanner (System.in);
System.out.print("Enter a string");
string string = input.nextLine();
String oddpositions = "";
for (int i=0; i< string.length();
                i+=2)
{
oddpositions += string.charAt(i);
}
// system.out.println(oddposition)
}
}
```

(11)

```
import java.util.Scanner;
Public class Exercise 05_19
{
Public static void main(string[] args)
{
Scanner input = new Scanner (system.in);
System.out.print("Enter a string");
string s = input.nextline();
int count vowels = 0;
int count Consonants = 0;
for (int i=0; i<s.length();
for (int i=0; i<s.length(); i++)
{
char temp= character.toupper Case
(s.charAt(i))
if (temp=='A'||temp=='E'|| temp
='I'||temp=='O'|| temp='O'||
```

```
Count Vowels ++;
else if (Character.isLetter(temp))
Count Consonants ++;
}
System.out.println("the number of
vowels is" + Count vowels);
System.out.println("the number
of Consonants is" + count
Consonants);
}
}
```