

bk pgs → 236-238

Ques.) WAP, which prints Positive if the given no. is positive. Negative if the given no. is negative; or Neutral if the given no. is 0(zero)

Source Code:

```
import java.util.*;
class pgm26
{
    void whatapp()
    {
        Scanner sc = new Scanner(System.in);
        System.out.print(" Input a no. : ");
        int a = sc.nextInt();
        if (a > 0)
            System.out.println(" Positive ");
        else if (a < 0)
            System.out.println(" Negative ");
        else if (a == 0)
            System.out.println(" Neutral ");
        else
            System.out.println(" Error ! ");
    }
}
```

VDT:

Variable Name	Data Type	Description
---------------	-----------	-------------

a	int	Used to input a no. from the user.
---	-----	------------------------------------

Ques. 9) WAP, which calculates and prints the House Rent Allowance (HRA) and Dearness Allowance (DA) of an employee. The basic salary(BS) of an employee is given. If BS is more than 10000 ; then HRA is 85 % of the BS. If BS is less than 10000 ; then HRA is 100 % of the BS. DA is 45% of the BS.

Source Code:

```
import java.util.*;  
class pg27
```

```
{
```

```
void m()
```

```
{
```

```
Scanner sc = new Scanner(System.in);  
System.out.print("Enter your  
basic salary: ");  
double BS = sc.nextDouble();
```

double HRA, DA = (45/100) \* BS;

if (BS >= 10000)

HRA = (50.85/100) \* BS;

else if (BS < 10000)

HRA = 35(100/100) \* BS;

else

HRA = 0;

System.out.println ("House Rent  
Allowance: " + HRA + ", Dearness  
Allowance: " + DA);

}

}

VDT:

Variable	Data Description
----------	------------------

Name	Type
------	------

BS double Inputs a no. (basic salary) from the user.

HRA double Stores HRA after calculating it acc. to the condition.

DA double Stores DA after calculating it as  $(45/100) * BS$

Ques. 10) NAP to input an integer and print whether it is a single digit integer or double digit integer or three digit integer or more than three digit integer.

Source Code:

```

import java.util.*;
class pg28
{
    void pencil()
    {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter a no.: ");
        int a = sc.nextInt();
        int b = (a > 0 & a < 10) ? "One" : c;
        String b = (a > 100 & a < 1000) ? "Two" : d;
        String c = (a >= 10 & a < 100) ? "Three" : e;
        String d = (a > 1000) ? "More than 3" : f;
        System.out.println ("It is " + a + " digit integer.");
    }
}

```

### VDT:

- | Variable | Data Type | Description                                   |
|----------|-----------|---|
| a        | int       | Used to input an integer no. from the user.   |
| b        | String    | Stores words on the basis of given condition. |
| c        | String    | Stores words on the basis of given condition. |
| d        | String    | Stores words on the basis of given condition. |

Ques. 12) WAP to define a method `int larger()` to input values for a, b and c. Decide the greatest integer using conditional/ternary operators and return the greatest integer.

Source code:

```

import java.util.*;
class pg29
{
    void larger()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter three integers:");
        int a = sc.nextInt();
        int b = sc.nextInt();
        int c = sc.nextInt();
        int d = (a > b & a > c) ? a : c;
        int e = (b > a & b > c) ? b : d;
        System.out.println("The greatest among them is " + e);
    }
}
  
```

VDT:

Variable Name	Data Type	Description
a	int	Used to input a no. from the user.
b	int	Used to input a no. from the user.
c	int	Used to input a no. from the user.
d	int	Stores a or b as per the condition.
e	int	Stores a, b or c as per the condition.

Q.13) WAP to define a method void Smaller() that takes input using the input stream and prints the smallest integer from the parameters from x and y, using the conditional statements.

Source Code:

```

import java.util.*;
class prog30
{
    void Smaller()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter two integers:");
        int x = sc.nextInt();
        int y = sc.nextInt();
        int z = (x > y) ? y : x;
        System.out.println("The smaller one is " + z);
    }
}
  
```

VDT :

Variable Name	Data Type	Description
x	int	Used to input a no. from the user.
y	int	Used to input a no. from the user.
z	int	Stores x or y on the basis of given condition.

(Fig 14) WAP to input a character, convert the character into its opposite case, print the original character and the converted character. E.g., if the input is 'g' the output will be 'G'.

Source Code:

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

```
class Prg31
```

```
{
```

```
void find()
```

```
{
```

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

```
System.out.print("Enter a letter: ");
```

~~```
char abc = sc.next().charAt(0);
```~~  
~~```
char alpha = (char) abc;
```~~  
~~```
if (abc >= 'A' && abc <= 'Z')
```~~~~```
System.out.println("Converted =");
```~~

```
int a = abc;
```

```
int b = a + 32;
```

~~```
char alpha = (char) b;
```~~~~```
else if (abc >= 'a' && abc <= 'z')
```~~

```
{
```

```
int a = abc;
```

```
int b = a - 32;
```

~~```
alpha = (char) b;
```~~

```
}
```

```
else
```

```
{
```

~~```
alpha = int b = 32;
```~~~~```
alpha = (char) b;
```~~

```
}
```

System.out.println("Original character:  
+ abc + ", and the converted  
character: " + alpha);

3  
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VDT:

| Variable | Data Type | Description                                          |
|----------|-----------|------------------------------------------------------|
| Name     | Type      |                                                      |
| abc      | char      | Used to input a letter (character)<br>from the user. |
| a        | int       | Stores Converted ASCII code of abc                   |
| b        | int       | Adds or subtracts 32 from a<br>as per the condition. |
| alpha    | char      | Stores converted character<br>of b.                  |

Ques. 15) WAP, which takes the percentage of a student as the parameter of a method void result(). Print the division obtained by the student as per the given criteria:

Percentage  $\geq 60$   
 $45 \leq$  Percentage  $< 60$   
 $32 \leq$  Percentage  $< 45$   
Percentage  $< 33$

First  
Second  
Third  
Needs Improvement

Source Code:

(P.T.O)

```

import java.util.*;
class pg32
{
    void result()
    {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter your percentage:");
        double p = sc.nextDouble();
        String abc = (p < 33) ? "Needs Improvement"
            Third : "great";
        String def = (p >= 33 & p < 45) ? "Third"
            Second : "First" : ghi;
        System.out.println ("Division obtained"
            + jkl);
    }
}

```

NDT:

| Variable Name | Data Type | Description                                     |
|---------------|-----------|-------------------------------------------------|
| p             | double    | Used to input a no. (percentage) from the user. |
| abc           | String    | Stores words on the basis of given condition.   |
| def           | String    | Stores words on the basis of given condition.   |
| ghi           | String    | Stores words on the basis of given condition.   |
| jkl           | String    | Stores words on the basis of given condition.   |

Pg. 24)

The telephone department wishes to compute monthly telephone bills for its customers using the following slabs/rules on the basis of calls made:

| No. of calls                | Rate               |
|-----------------------------|--------------------|
| First 80 calls              | ₹ 2.50 per call    |
| Next 80 calls               | 60 paisa per call  |
| Next 160 calls              | 50 paisa per call, |
| Any call above<br>320 calls | 40 paisa per call  |

WAP to input no. of calls and compute total bill amount. Print the output including the no. of calls consumed, and the bill amount to be paid.

Source Code:

```
import java.util.*;
class pg33
{
    void exhausted()
    {
        Scanner sc = new Scanner (System.in);
        System.out.print ("No. of calls made:");
        int calls = sc.nextInt(); double bill;
        if (calls <= 80)
            bill = calls * 250;
        else if (calls <= 160)
            bill = 80 * 250 + ((calls - 80) * 60);
        else if (calls <= 320)
            bill = 80 * 250 + 80 * 60 + ((calls - 160) * 50);
        else
            bill = 80 * 250 + 80 * 60 + 160 * 50 + ((calls - 320) * 40);
        System.out.println ("Total Bill Amount: " + bill);
    }
}
```

else if (calls > 80 && calls <= 160)

$$\text{bill} = (80 * 2.5) + (\text{calls} - 80) * 0.6;$$

else if (calls > 160 && calls <= 320)

$$\text{bill} = (80 * 2.5) + (80 * 0.6) + (\text{calls} - 160) * 0.5;$$

else if (calls > 320)

$$\text{bill} = (80 * 2.5) + (80 * 0.6) + (160 * 0.5) + (\text{calls} - 320) * 0.4;$$

~~System.out.println~~

else

$$\text{bill} = 0$$

System.out.println ("Total bill amount  
to be paid: ₹ " + bill);

}

VDT:

| Variable Name | Data Type | Description                                                                        |
|---------------|-----------|------------------------------------------------------------------------------------|
| calls         | int       | Used to input a no. (no. of calls made) from the user.                             |
| bill          | double    | Stores total bill after calculating it on the basis of different given conditions. |

Prg. 20) Define a method void check( ), where 'ch' is the input variable. Using switch-case, check and print whether a character is capital vowel or consonant, otherwise

small vowel or consonant.

Source Code:

```
import java.util.*;  
class prob34  
{  
    void cry()
```

```
{  
    Scanner sc = new Scanner(System.in);  
    System.out.print("Enter a letter");  
    char ca = sc.next().charAt(0),  
        switch(ca)
```

```
{
```

```
    case 'a': ;
```

```
    case 'e': ;
```

```
    case 'i': ;
```

```
    case 'o': ;
```

```
    case 'u': System.out.println("Entered  
letter is a small vowel.");  
        break;
```

```
    Case 'A': ;
```

```
    Case 'E': ;
```

```
    Case 'I': ;
```

```
    Case 'O': ;
```

```
    Case 'U': System.out.println("Entered  
letter is a capital vowel."); break;  
    default:
```

```
        if (ca >='a' & & ca <= 'z')
```

```
            System.out.println("Entered letter  
is a small consonant.");
```

```
        else if (ca >='A' & & ca <= 'Z')  
            System.out.println("Entered letter is a capital
```

consonant.");

else  
System.out.println("Try Again!");

3

3

3

VDT:

| Variable Name | Data Type | Description                        |
|---------------|-----------|------------------------------------|
| CD            | Char      | Used to input a letter (character) |

Prgllb) A bank accepts fixed deposits (FDs) and the policy it adopts on interest is as follows-

- (i) if a deposit is for less than Rs. 1000 for 3 or more years, the interest rate is 6%.
- (ii) If a deposit is between Rs. 1000 and Rs. 50000 for 3 or more years, the interest rate is 7.5%.
- (iii) If a deposit is for more than Rs. 50000 for 1 year or more, the interest rate is 8%.
- (iv) On all other deposits for more than 5 years, the interest rate is 4.5%.

(V) On all other deposits non-covered in the above conditions, the interest rate is 4.5%.

Given the amount deposited and the no. of years WAP to calculate the compound interest given to the customer for higher FD.

Source Code:

```
import java.util.*;
class pg35
{
    void main()
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter your FD: Rs.");
        double fd = sc.nextDouble();
        System.out.print("Enter the no. of
years it's invested: ");
        int t = sc.nextInt(); double r;
        if (fd < 1000 && t >= 3)
        {
            r = 6;
        }
        else if (fd >= 1000 && fd <= 50000 &&
t >= 3)
            r = 7.5;
        else if (fd > 50000 && t >= 1)
            r = 8;
        else if (t > 5)
            r = 9;
    }
}
```

else

$$r = 4.5;$$

$$\text{double } a = fd \left(1 + \frac{r}{100}\right)$$

$$\text{double } a = fd * \text{Math.pow}\left(\left(1 + \frac{r}{100}\right), t\right);$$

$$\text{double } ci = a - fd;$$

System.out.println("The compound interest given to you is Rs." + ci);  
    }  
    }

VDT:

| Name | Type   | Description                                                                                                                      |
|------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| fd   | double | Inputs a Value as fixed deposit.                                                                                                 |
| t    | int    | Inputs a no. for no. of years fd is invested.                                                                                    |
| r    | double | Stores the rate of interest depending on the given conditions                                                                    |
| a    | double | Stores total amount after calculating it using formula<br>$fd * \text{Math.pow}\left(\left(1 + \frac{r}{100}\right), t\right)$ . |
| ci   | double | Stores compound interest after calculating it as a (amount) fixed deposit (fd).                                                  |

Ques 16): WAP which takes the no. of units consumed by a consumer; and calculates the bill amount to be

paid. The condition / slab to calculate bill is -

No amount for first 100 units and only Rs. 350 fixed charge  
Rs. 1.90 per unit next 100 units + rental charge

Rs. 2.90 per unit for next 100 units + rental charge

Rs. 3.90 per unit for more than 300 units + rental charge

Source Code:

```
import java.util.*;
class pg36
{
    void main ()
    {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter the no. of units consumed : ");
        int a = sc.nextInt(); double bill;
        if (a <= 100)
            bill = 350;
        else if (a <= 200)
            bill = 350 + (1.90 * (a - 100));
        else if (a <= 300)
            bill = 350 + (1.90 * 100) + (2.90 * (a - 200));
        else
            bill = 350 + (1.90 * 100) + (2.90 * 100) + (3.90 * (a - 300));
    }
}
```

System.out.println ("Bill amount to  
be paid : Rs. " + bill);

3

3

VDT:

| Variable Name | Data Type | Description                                                     |
|---------------|-----------|-----------------------------------------------------------------|
| a             | int       | Inputs a no. for the no. of units consumed.                     |
| bill          | double    | Stores bill after calculating it based on the given conditions. |

Ques. 18) WAP to input a digit between 0 to 9 using Scanner class. Using ~~if-else~~ <sup>switch-case</sup>, print the no. name. E.g., if input is 7; then, the output is Seven otherwise print a message "Out of range", if the value of digit is other than 0-9.

Source Code:

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

```
class pg37
```

```
{
```

```
void main()
```

```
{
```

```
Scanner sc = new Scanner (System.in);  
System.out.print ("Enter a digit between")
```

0 to 9 :  $\therefore$

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

switch(a)

{  
case 1:

```
System.out.println ("One"); break;
```

case 2:

System.out.println("Two"); break;

case 3:

```
System.out.println("Three"); break;
```

case 4:

```
System.out.println("Four"); break;
```

Case 0:

System.out.println("Zero"); break;  
case 5:

case 5:

```
System.out.println("Five"); break;  
case 6:
```

case 6:

System.out.println ("Six"); break;  
case 7:

case 7:

System.out.println("Seven"); break;  
case 8:  
System.out.println("Eight"); break;

~~case 8:~~

```
System.out.println ("Hello");
```

Case 9:

case 4: *c* engine fails break;  
systems: out -> no file

systems.out.println("New ");  
defects[i].print();

default:

System.out.println ("Out of range");

✓DT:

| New DataType | Description                                     |
|--------------|-------------------------------------------------|
| int          | Used to input a number (integer) from the user. |

Ques. 17) WAP to input a digit between 0 to 9 using Scanner class. Using ~~switch case~~ <sup>if else-if</sup> print the no. name. E.g., if the input is 7; then, the output is Seven otherwise print a message "Out of range", if the value of digit is other than 0-9.

Source Code:

```
import java.util.*;  
class pg38
```

```
{  
    void main()
```

```
{
```

```
    Scanner sc = new Scanner(System.in);  
    System.out.print("Enter a digit between  
    0 to 9:");
```

```
    byte a = sc.nextByte();
```

```
    if (a == 1) String name;
```

```
    if (a == 1)
```

```
        name = "One";
```

```
    else if (a == 2)
```

```
        name = "Two";
```

```
    else if (a == 3)
```

```
        name = "Three";
```

```
    else if (a == 4)
```

```
        name = "Four";
```

```
    else if (a == 5)
```

```
        name = "Five";
```

```
    else if (a == 0)
```

```
        name = "Zero";
```

```
    else if (a == 6)
```

```
        name = "Six";
```

Variable Name Data  
a by  
name Stor

Ques. 18)

W.A.  
12  
can  
ith  
in  
be  
"M  
is  
shur

impo  
class

```
else if (a == 7)
    name = "Seven";
else if (a == 8)
    name = "Eight";
else if (a == 9)
    name = "Nine";
else
    name = "Out of range";
System.out.println (#name);
}
```

QDT:

Variable Name Data Type Description

a byte Inputs a digit (number) from the user.  
name String Stores no. name based on condition.

WAP to input a month no. between 1 to 12 using Scanner class. Using switch-case statement print the name of the ~~no~~ corresponding month, E.g.: if input is 7; then, the output should be July, otherwise print a message "Month out of range", if the value is other than 1-12.

Source Code:

```
import java.util.*;
class pg39
```

```

    {
        void main()
        {
            Scanner sc = new Scanner (System.in);
            System.out.print("Enter a month number  
between 1-12:");
            byte short as = sc.nextInt();
            String no;
            switch(as)
            {
                case 1: no = "January"; break;
                case 2: no = "February"; break;
                case 3: no = "March"; break;
                case 4: no = "April"; break;
                case 5: no = "May"; break;
                case 6: no = "June"; break;
                case 7: no = "July"; break;
                case 8: no = "August"; break;
                case 9: no = "September"; break;
                case 10: no = "October"; break;
                case 11: no = "November"; break;
                case 12: no = "December"; break;
                default: no = "Month out of range";
            }
            System.out.println(no);
        }
    }

```

#### VDT:

| Variable Name | Data Type | Description                         |
|---------------|-----------|-------------------------------------|
| as            | short     | Input a no. from the user.          |
| no            | String    | Stores month name acc. to condition |

By 2)

WAP in Java to input the no. of phone calls done by a consumer in a month. calculate and print the total bill amount to be paid by the consumer as per the following slabs:

| Phone calls done | Rate per call |
|------------------|---------------|
|------------------|---------------|

|                     |                                    |
|---------------------|------------------------------------|
| First 100 calls     | Only Rs. 500 as rental charge.     |
| Next 100 calls      | Rs. 1.10 per call + Rental charge. |
| Next 100 calls      | Rs. 1.25 per call + Rental charge. |
| More than 300 calls | Rs. 1.35 per call + Rental charge  |

Source Code:

```

import java.util.*;
class pg40
{
    public static void main()
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter no. of phone
calls made:");
        int no = sc.nextInt();
        double charge;
        if (no <= 100)
        {
            charge = 500;
        }
        else if (no <= 200)
        {
            charge = 500 + ((no - 100) * 1.10);
        }
        else if (no <= 300)
        {
            charge = 500 + ((100 * 1.10) * + ((no - 200) * 1.25));
        }
    }
}

```

```

else if ( $no >= 300$ )
    charge =  $500 + 100 * 1.10 + 100 * 1.25 + (no - 300) * 1.30$ 
else
    Charge = 0;
System.out.println("Your total bill  
amount : Rs." + charge);
}
}

```

VDT:

| Variable | Data        | Description                                                                     |
|----------|-------------|---------------------------------------------------------------------------------|
| no       | Type int    | Inputs a no. for no. of calls made by the user.                                 |
| charge   | Type double | Stores total bill charge after calculating it on the basis of given conditions. |

Ques. 22) WAP to input 'N' using Scanner and checks and print whether 'N' is a BUZZ Number or not.

Source Code:

```

import java.util.*;
class pg41
{

```

```

void main()
{

```

```

Scanner sc = new Scanner(System.in);
System.out.print("Enter a no:");
int N = sc.nextInt();
String ls = (N % 10 == 7 || n % 7 == 0) ? "BUZZ" : "NOT BUZZ";

```

System.out.println(" " + " number.");

}  
}

VDT:

| variable | Name   | Description                                                |
|----------|--------|------------------------------------------------------------|
|          | Type   |                                                            |
|          | int    | Inputs a no. from the user.                                |
|          | String | Stores "BUZZ" or "NOT BUZZ" after checking the conditions. |

Q.23) A cloth showroom has announced the following festival discounts on the purchase of items, based on the total cost of the items purchased.

| Total cost            | Discount (in Percentage) |
|-----------------------|--------------------------|
| less than Rs. 2000    | 5%.                      |
| Rs. 2001 to Rs. 5000  | 25%.                     |
| Rs. 5001 to Rs. 10000 | 35%.                     |
| More Rs. 10000        | 50%.                     |

WAP to input the total cost. Compute and display the amount to be paid by the customer after availing the discount. Print the output including total cost, discount amount and the final amount to be paid by the customer.

## Source code:

```
import java.util.*;  
class pg42
```

```
{  
void jst()
```

```
{  
Scanner sc = new Scanner(System.in);  
System.out.print("Enter total cost of the  
items purchased : Rs.");
```

```
double tc = sc.nextDouble();
```

```
int d;
```

```
double da, a;
```

```
if (tc <= 2000)
```

```
{
```

~~```
d = 5; da = (d * tc) / 100;
```~~~~```
a = tc - da;
```~~

```
}
```

~~```
else if (tc >= 2001 && tc <= 5000)
```~~~~```
d = 25;
```~~~~```
else if (tc >= 5001 && tc <= 10000)
```~~~~```
d = 35;
```~~~~```
else if (tc > 10000)
```~~~~```
d = 50;
```~~

```
else
```

~~```
d = 0;
```~~~~```
da = (d * tc) / 100;
```~~~~```
a = tc - da;
```~~~~```
System.out.println("Total cost = ₹ " + tc);
```~~~~```
System.out.println("Discount amount = ₹ " + da);
```~~~~```
System.out.println("Final amount to be  
paid = ₹ " + a);
```~~

VDT:

| variable | Data Type | Description                                                        |
|----------|-----------|--------------------------------------------------------------------|
| tc       | double    | Inputs a no. as the total cost of items purchased by the customer. |
| d        | int       | Stores discount percentage according to the given conditions.      |
| da       | double    | Stores discount amount after calculating it as $(d * tc) / 100$ .  |
| a        | double    | Stores total bill amount after calculating it as $tc - da$ .       |

Ques. 26\*) An employee is calculating income tax on the basis of slabs decided by the department. Write a WAP to take employee code number (Ecode), total monthly salary (msal). Calculate the annual salary (anual) and income tax to be paid (IT) on the basis of annual salary of as per the given slab:

| Annual Income (in Rs.)                  | Income Tax ('%) |
|-----------------------------------------|-----------------|
| $\leq 250000.0$                         | Nil             |
| $> 250000.0 \text{ and } \leq 500000.0$ | 10%             |
| $> 500000.0 \text{ and } \leq 900000.0$ | 20%             |
| $> 900000.0$                            | 30%             |

order to do something  
Savanna Codell