

## MANTHLY TEST JUNE 2017

### Java GUI Programming Fundamental: Review of class XI

#### Late Bloomers

1) What are GUI Components?

**ANS:** Graphical user interface based application contains windows , Button, Level , Text Boxes , dialogues boxes and menus etc are GUI component.

2) Why do we write a comment in a program? What are the two ways of writing comment in a java Program?

**ANS:**Comments are added to a program for the following purposes:-

1. Make the more readable and understandable
2. For future references

We can add comments in a Java program in the following ways:

1. Adding // before the line which is to be commented. This can be used only for single line comments.
2. using a pair of /\* and \*/ for multi-line comments.

3) What is IDE? Name two IDE for Programming in java.

**ANS:** A programming environment, where all the tools required for programming are available under one roof is called IDE.

Two IDE for Java are Netbeans and BlueJ

4) Name different type of Tokens available in Java.

**ANS:** Keyword, Identifier, Literal, Punctuators ad Operators.

5) What are primitive data types? Name the various primitive data type available in Java.

**ANS:** Data types that are directly available with java are called primitive data type. Various primitive data types available in java are byte, short, int, long, float, double, char and boolean.

6) What are Reference data types?

**ANS:** Data types created by the programmer using the primitive data type are called reference data type e.g. Classes, interfaces etc.

7) What is type casting?

**ANS:** Converting a value form one type to another is called type casting.

For e.g. int a = 5 .here 'a' is a integer, which can be cased to float as follows

float b = (float) a;

8) What are Keywords? Give two examples of keywords available in Java.

**ANS:** Keywords are words that have a specific predefined meaning in Java. They cannot be used as variable names. Eg. void, private, if, while etc.

9) What is the difference between = and == operator in java?

**ANS:** = represent an assignment operator. It sets the value of the variable on its left side with the result of expression on its right side.

== represent a conditional equal to operator. It checks for the equality of both its operands. If both the operands are equal, condition evaluates to true otherwise to false.

10) What do you means by parsing?

Ans-The parsing refers to converts textual data from GUI components in to numeric type.

Byte.parseByte(String a)

Short .parseShort (String a)

Integer.parseInt(String a)

Long.parseLong(String a)

Float.parseFloat(String a)

Double.parseDoubleString a)

Byte.parseByte(String a)

Exa- int a=Integer.parseInt(JtextField1.getText());

### **Average Learner**

1) Name the two type of selection statement available in Java.

**ANS:** Two selection statement available in java are 'if' and 'Switch'

2) Write the purpose of Switch Statement with the help of an example. Which Java Statement can be used in place of switch statement? In the switch statement, what happens if every case fails and there is no default option?

**ANS:** A Switch statement is used execute a statement from a group of statement based on the result of a expression. The expression must result in either of byte, short, integer or character.

An '*if statement*' can be used in place of switch statement

In a *switch statement* if none of the statement satisfies and even there is no default case then nothing would happen. This would not result in any sort of error.

3) Name any four packages available in java .

**ANS:** Some of the common packages in java are

- Java.io
- Java.net
- Java.awt
- Java.applet
- Java.lang

4) What is the purpose of 'continue' statement in java?

**ANS:** Continue statement skips the remaining part of the current loop and begins the next iteration of the loop.

5) Write any two differences between entry control loop and exit control loop.

**ANS:** Difference between an entry control loop and an exit control loop.

Entry Control Loop	Exit Control Lop
It first checks or evaluates the terminating condition and then executes the loop body.	It first evaluates the loop body and then checks the terminating condition. If the condition is found true the loop continues otherwise the loop stops.
In case if the condition is false in first time only then the loop will not get execute even once.	In case if the condition is false in first time only then the loop will still get execute at-least once.

6) What is iteration? Name two statement which provide iteration in Java.

**ANS:** Repetition of a one or more statement a number of times under a set of condition is termed as iteration. Two statement which provide iteration in Java are:

- While Loop
- Do- while
- For Loop

7) Differentiate between while and do while loop of Java giving suitable examples.

**ANS:** Difference between while and do while loop -

While Loop	Do while Loop
While Loop is a entry control loop	Do while is a exit control loop
<pre>int x= 100; while (x&gt; 0) {     System.out.println(X);     X= x- 10; }</pre>	<pre>int x= 100; do {     System.out.println(X);     X= x - 10; } while (x&gt; 0);</pre>

8) Evaluate the following expressions separately in Java. Assume all variable to be integers and initial value of a as 10 and b as 20

- a.  $x = a ++ + b ++;$
- b.  $x = ++a + ++ b;$
- c.  $x = ++a + b ++;$
- d.  $x = a / b \% b;$
- e.  $x = b / a \% b;$
- f.  $x = b + a ++ \% b;$
- g.  $x = a + b * a * b;$

**ANS:** Output:

- a. 30
- b. 32
- c. 31
- d. 0
- e. 2
- f. 30
- g. 4010

9) What would be output of the following code segment written in java.

```

public static void main(String [] args)
{
    int a=10, b= 9;
    boolean x;
    x = a++ == ++b;
    System.out.print("x = "+x);
}

```

**ANS:** Output:

x = true (due to Boolean data type)

**10)** Find the output of the following code snippet written in java

```

public static void main(String []args)
{
    int x=10, y=5;
    System.out.println(x++);
    System.out.println(++y);
    System.out.println((x++ + ++y));
    System.out.println(++x - y++);
    System.out.println((x++) + (++y));
    System.out.println(++x)-(y++);
    System.out.println((x++) + (++x));
    System.out.println("x = " + X + " y="+ y);
}

```

**ANS:**Output:

10

6

18

6

22

6

32

x= 17 y =10

## Brilliant Learners

1) Correct the errors in the following program segment written in JAVA. You are just required to write the corrected code, underlying the corrections made.

Public Static Void Main (String [] args)

```
{
    Integer Nos = 100;
    while (Nos => 45)
    {
        If (Nos % 5 = 0);
        Nos+=10;
        otherwise
        Nos + = 20;
    }
}
```

**ANS:** Corrected Code

Public static void main (String [] args)

```
{
    Int Nos = 100;
    while (Nos>= 45)
    {
        if (Nos % 5 == 0)
        Nos+=10;
        else
        Nos + = 20;
    }
}}
```

2) Convert the following ‘while loop’ into its equivalent ‘for loop without altering the output of the program.

```
int x = 100, a = 30;
while ( x>= 10)
```

```

{
    System.out.println("New Amount =" + (x + a));
    a++;
    x -= a;
}

```

**ANS:**

```

int x, a = 30;
for(x = 100; x >= 10; x -= a)
{
    System.out.println("New Amount =" + (x + a));
    a++;
}

```

3) Text entered in a `JTextField` is of `String` type. A programmer wants to store it in a variable of type `integer`. Is it possible how? Explain.

**ANS:** Yes, it is possible to store a text in a `JTextField` in a `Integer` variable. To store the text, first it must be converted into `int` type using the `parseInt()` method.

```
int stud_cnt = Integer.parseInt(jTextField1.getText());
```

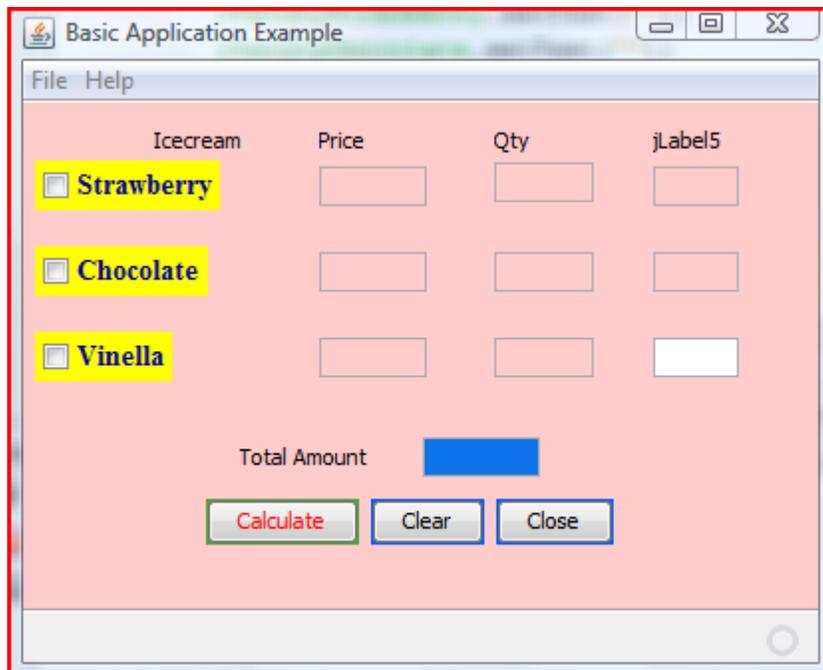
In the above statement, first the `getText()` function obtains the text written in the `JTextField1` and then convert it into `integer` type using `parseInt()` method of available in `Integer` class

4) Assume the following interface built using Netbeans used for bill calculation of a ice-cream parlor. The parlor offers three varieties of ice-cream – vanilla, strawberry, chocolate. Vanilla ice-cream costs Rs. 30, Strawberry Rs. 35 and Chocolate Rs. 50. A customer can choose one or more ice-creams, with quantities more than one for each of the variety chosen. To calculate the bill parlor manager selects the appropriate check boxes according to the varieties of ice-cream chosen by the customer and enter their respective quantities.

Write Java code for the following:

h. On the click event of the button 'Bill', the application finds and displays the total bill of the customer. It first displays the rate of various ice-creams in the respective text fields. If a user doesn't select a check box, the respective ice-cream rate must become zero. The bill is calculated by multiplying the various quantities with their respective rate and later adding them all.

- i. On the Click event of the clear button all the text fields and the check boxes get cleared.
- j. On the click event of the close button the application gets closed.



**ANS:**

A: private void jBtnCalculateMouseClicked(java.awt.event.MouseEvent evt)

```

{

if(jchkStrawberry.isSelected()==true)
jTxtPriceStrawberry.setText("35");
else
{
jTxtPriceStrawberry.setText("0");
jTxtQtyStrawberry.setText("0");
}
if(jChkChocolate.isSelected()==true)
jTxtPriceChocolate.setText("50");
else
{

```

```

jTxtPriceChocolate.setText("0");
jTxtQtyChocolate.setText("0");
    }
if(jChkVinella.isSelected()==true)
jtxtPriceVinella.setText("30");
else
    {
jtxtPriceVinella.setText("0");
jTxtQtyVinella.setText("0");
    }
int r1,r2,r3,q1,q2,q3,a1,a2,a3,gt;
    r1=Integer.parseInt(jTxtPriceStrawberry.getText());
    r2=Integer.parseInt(jTxtPriceChocolate.getText());
    r3=Integer.parseInt(jtxtPriceVinella.getText());
    q1=Integer.parseInt(jTxtQtyStrawberry.getText());
    q2=Integer.parseInt(jTxtQtyChocolate.getText());
    q3=Integer.parseInt(jTxtQtyVinella.getText());
    a1=r1*q1;
jTxtAmtStrawberry.setText(""+a1);
    a2=r2*q2;
jTxtAmtChocolate.setText(""+a2);
    a3=r3*q3;
jTxtAmtVinella.setText(""+a3);
gt=a1+a2+a3;
jTxtTotalAmt.setText(""+gt);
    }

```

```

B: private void jBtnCloseActionPerformed(java.awt.event.ActionEvent evt)
{
System.exit(0);
}

```

```

C: private void jBtnClearActionPerformed(java.awt.event.ActionEvent evt)
{
jTxtPriceStrawberry.setText("");
jTxtPriceChocolate.setText("");
jtxtPriceVinella.setText("");
jTxtQtyStrawberry.setText("");
jTxtQtyChocolate.setText("");
jTxtQtyVinella.setText("");
jTxtAmtStrawberry.setText("");
jTxtAmtChocolate.setText("");
jTxtAmtVinella.setText("");
jchkStrawberry.setSelected(false);
jChkChocolate.setSelected(false);
jChkVinella.setSelected(false);
}

```

##### 5) Define Container Control?

**Ans** –A container is special types of component that can hold other components. Some Swing containers are JPanel , JApplet ,JFrame,JWindow ,JDialog and JInternalFrame .The components contained in a container are called child component.

6) What is Access Specifies? What is the difference between private, protected and public access specifies?

**ANS:** Access specifies tells a compiler about the usability of a data member of a class in a Java program.

**Private** (or class-private) restricts the access to the class itself. Only methods that are part of the same class can access private members.

**Protected** (or class-protected) allows the class itself and all its subclasses to access the member.

**Public** means that any code can access the member by its name.

**Default** These members are accessible only in the class that is in the same package class i.e in their own classes.

7) What is a package? Why do we design a package?

**ANS:** A Package is a group of logically related classes. Packages are usually defined using a hierarchical naming pattern, with levels in the hierarchy separated by periods (.)

8) Rewrite the following code fragment using switch :

```
if(ch == 'E')
    east++;
if(ch == 'W')
    west++;
if(ch == 'N')
    north++;
if(ch == 'S')
    south++;
else
    JOptionPane.showMessageDialog(null, "unknown");
switch(ch)
{
    case 'E': east++;      break;
             case 'W': west++;      break;
             case 'N': north++;     break;
    case 'S': south++;    break;
    default:  JOptionPane.showMessageDialog(null, "unknown");
    break;
}
```

•

**Q9.** Rewrite the following program code using if else if statement

```
switch(ch)
{
    case 'a' : system.out.println("It is a."); break;
    case 'b' : system.out.println("It is b."); break;
    case 'c' : system.out.println("It is c."); break;
}
```

**ANS:** if (ch=='a') {

```
system.out.println("It is a.");  
else if (ch=='b')  
system.out.println("It is b.");  
elseif (ch=='c')  
system.out.println("It is c."); }
```

Q10.How many times does the following loop execute? What is the value of num after the execution?

```
int num=5;  
do  
{  
System.out.println("KENDRIYA VIDYALAYA SANGATHAN ");  
num--;  
}while (num>2);
```

**ANS:** 3 times and value of num=2