

Unit7 – ICS4U0 – Android Interfaces

Sample Test – Wednesday May 28, 2025

Name: Solutions

Total	%	Knowledge 	Communication 	Thinking 	Application 
(84)	%	(19)	(22)	(18)	(25)

Knowledge

1. Identify the type of View shown in each picture.

Credit Card Number

(a) Edit Text
(b) Text View

PIZZA MARGHERITA



Save

(c) ImageView
(d) Button



(e) ImageView
(f) ImageView

2. Outline the LinearLayouts needed around the views they enclose. (4 marks)



3. Fill in the hex codes for each colour. (5 marks)

/6

Red	FF 00 00
Yellow	FF FF 00
Green	00 FF 00
Cyan	00 FF FF
Blue	00 00 FF
Magenta	FF 00 FF
Black	00 00 00
White	FF FF FF

/9

4. Fill in this code:

/4

Great work android:id="@+id/msg" change to: Try again.	TextView <u>msg</u> = (TextView) findViewById(R.id. <u>msg</u>); <u>msg</u> .setText("Try again");
Cost android:id="@+id/cost"	EditText <u>cost</u> = (EditText) findViewById(R.id. <u>cost</u>); int c = Integer.parseInt(<u>cost</u> .getText().toString()); <u>cost</u> .setText("");

Communication

5. Select true or false for each statement.

/5

- F a) In Android, the XML file can contain ifs, loops, arrays and findViewById code.
- F b) Two mandatory attributes for Views are layout_width and layout_height.
- F c) A ViewGroup that positions View relative to each other or the edge of the screen is called a GridLayout.
- F d) DP stands for density independent pixels.
- F e) A View type that always needs an ID is an EditText.

6. Circle the three valid Android image names.

/2

pizza pizza pi\$\$a Pizza

pl22a 3pizza pizza3

7. Circle the five valid onClick values.

/2

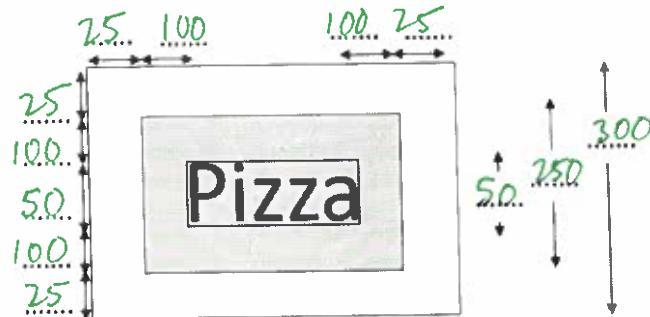
pizza pIZZa pi\$\$a Pizza

pl22a 3pizza pizza3

8. Using the code, fill in the dimensions of the button.

/4

```
<TextView
    android:text="Pizza"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="50sp"
    android:padding="100dp"
    android:layout_margin="25dp"/>
```



9. Fill in the appropriate term that matches the description in the front column.

/6

<u>id</u>	(a) An attribute needed if the view will be changed.
<u>onClick</u>	(b) An attribute needed if the view will be clicked.
<u>View</u>	(c) An item that is added to an Android screen. A widget in Android.
<u>attribute</u>	(d) A property inside a tag that can be altered. Used for formatting.
<u>Linearlayout</u> <u>GridLayout</u>	(e) The name of a View Group.
<u>View view</u>	(f) The parameter of a method associated with an Android button.

10. Define inflation and describe why it is useful in Android development.

/3

Inflation is the process of translating the XML file to Java code. It occurs in the onCreate method in Java. It is useful because we can have the best of both worlds. Screen Design is easier in XML, so we do it there. Coding is easier in Java, so we do it there.

Application →

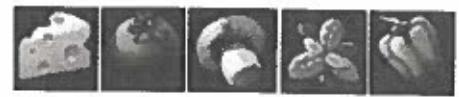
11. Using the pictures shown, fill in the code for the Pizza Toppings game.

/6

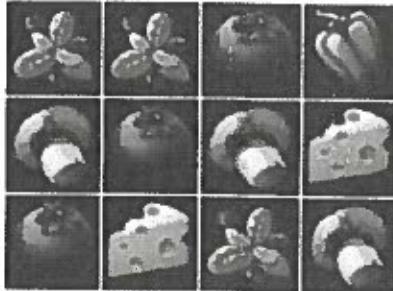
```
public class MainActivity extends AppCompatActivity {
    int pizza[][] = {{3, 3, 1, 4},
                    {2, 1, 2, 0},
                    {1, 0, 3, 2}};
    int row = 3;
    int col = 4;
    ImageView pics[] = new ImageView[row * col];

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        GridLayout g = (GridLayout) findViewById(R.id.grid);
        int m = 0;

        for (int i = 0; i < row; i++) {
            for (int j = 0; j < col; j++) {
                pics[m] = new ImageView(this);
                setpic(pics[m], m);
                pics[m].setId(m);
                g.addView(pics[m]);
                m++;
            }
        }
    }
}
```



0 1 2 3 4
cheese tomato mush basil pepper



```
public void setpic(ImageView i, int pos) {
    int x = pos / col;
    int y = pos % col;
    int picnum = pizza[x][y];
    if (picnum == 0)
        i.setImageResource(R.drawable.cheese);
    else if (picnum == 1)
        i.setImageResource(R.drawable.tomato);
    else if (picnum == 2)
        i.setImageResource(R.drawable.mush);
    else if (picnum == 3)
        i.setImageResource(R.drawable.basil);
    else
        i.setImageResource(R.drawable.pepper);
}
```

12. The Pizza Toppings game (from question 11) will need a redraw method.

Fill in the blanks.

/5

```
public void redraw() {
    int m = 0;
    for (int i=0; i<row; i++)
        for (int j=0; j<col; j++) {
            if (pizza[i][j] == 0)
                pics[m].setImageResource(R.drawable.cheese);
            else if (pizza[i][j] == 1)
                pics[m].setImageResource(R.drawable.tomato);
            else if (pizza[i][j] == 2)
                pics[m].setImageResource(R.drawable.mush);
            else if (pizza[i][j] == 3)
                pics[m].setImageResource(R.drawable.basil);
            else
                pics[m].setImageResource(R.drawable.pepper);
            m++;
        }
}
```



0 1 2 3 4
cheese tomato mush basil pepper

13. Fill in the blanks to create the below app. Also fill in the java for the onClick:

/14



```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pizza"
        android:textSize="50dp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter the Size:"
        android:textSize="30dp" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Size (s/m/l/xl)"
        android:textSize="30dp"
        android:id="@+id/input"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="order"
        android:onClick="calcCost"
        android:textSize="20dp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="30dp"
        android:id="@+id/output"
        android:text="The cost is $ 0.00" />
</LinearLayout>
```



```
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

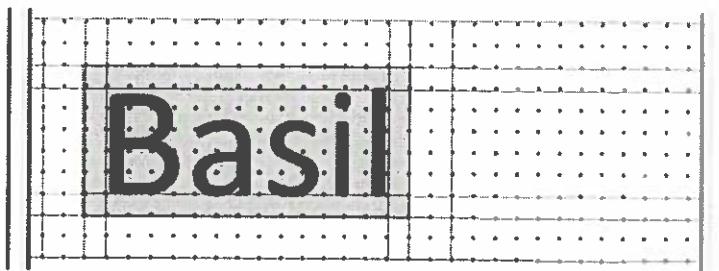
    public void calcCost(View view) {
        EditText input = (EditText) findViewById(R.id.input);
        TextView output = (TextView) findViewById(R.id.output);
        String size = input.getText().toString();
        if (size.equalsIgnoreCase("S"))
            output.setText("The cost is $ 10.99");
        else if (size.equalsIgnoreCase("M"))
            output.setText("The cost is $ 12.99");
        else if (size.equalsIgnoreCase("L"))
            output.setText("The cost is $ 15.99");
        else if (size.equalsIgnoreCase("XL"))
            output.setText("The cost is $ 17.99");
        else
            output.setText("Error");
    }
}
```

Size	Cost
S or s	10.99
M or m	12.99
L or l	15.99
XL or xl	17.99
other	Error

Thinking

14. Fill in the code for this view. The width of the screen is shown. Each dot square is 10 dp.

/5



```
<Button
    android:text="Basil"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="50dp"
    android:background="#CCCCCC"
    android:padding="10dp"
    android:layout_margin="20dp" />
```

15. Circle and correct five errors in this code.

/5

```
<?xml version="1.0" encoding="utf-8"?
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="center_horizontal">

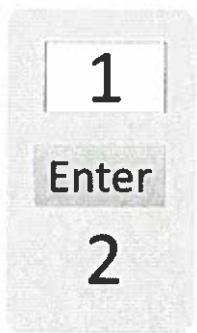
    <TextView>
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:id="@+id/title"
        android:text="Yummy Pizza"
        android:textColor="#000000"
        android:layout_margin="20dp"

    </>
</LinearLayout>
```

16. Several test cases were run on this app and the results of each test are shown in the table below.

What is the code in the onClick method named enter? (The editText's id is input; the textView's is output)

/8



```
public void enter (View view) {
    EditText input = (EditText) findViewById(R.id.input);
    TextView output = (TextView) findViewById(R.id.output);
    int n = Integer.parseInt(input.getText().toString());
    int result = n * n + n;
    output.setText (" "+ result);
}
```

Test Case	Output
0	90
5	20
-10	90
4	20
-5	20
-0.5	-0.25
0	0
-1	0

6

20

