Create window

Application.launch(args); - start function in main

Group group = new Group(); - crate group  
Scene scene = new Scene(group,400,400); - create window  
  
primaryStage.setTitle("parasha"); - set title  
primaryStage.setScene(scene); - set scene  
primaryStage.show(); - show window

**Creating jar**

Javafxpackager –sdf

Javapackager –createjar –appclass … -srcfiles ….class –outfile ….jar -v

AWT

Line, rectangle, eclipse, text…

First way:

… line = new …(0,0,100,100); - create figure  
….setStroke(Color.RED); - set color of the line  
….setFill(Color.GREEN); - set fill color

….setStrokeWidth(…); - set line width

group.getChildren().addAll(…); - add figure

Second way:

Canvas canvas = new Canvas(500,500); - create canvas  
GraphicsContext gc = canvas.getGraphicsContext2D(); - get graphics

gc. … - use functions like fillArc stroleArc fillPoligon atc

group.getChildren().addAll(canvas); - set canvas

Overriding methods of the fields or boxes,

Setting actions

Create class and extend needed calss (for example TextArea or TextField) than override needed method and change it.

After that create example of this class in your main class and add it ti the group

group.getChildren().addAll(…);

thanks to this you cat validate written value by regular match, just override replaceText

Actions

…..addEventHandler(MouseEvent…. or ActionEvent…. or KeyEvent…, new EventHandler< MouseEvent or ActionEvent or KeyEvent >() {  
 @Override  
 public void handle(MouseEvent or ActionEvent or KeyEvent event) {  
 }  
});

IMAGES

Image image = new Image(new FileInputStream("…")); - get image  
ImageView view = new ImageView(image); - get view  
view.setFitHeight(200); - set height  
view.setFitWidth(200); - set width  
  
PixelReader reader = image.getPixelReader(); - get pixels  
Color color = reader.getColor(0,0); - get pixel  
  
WritableImage wImage = new WritableImage((int)image.getWidth(),(int)image.getHeight()) – create own image

group.getChildren().addAll(view); - set pixel in own image

Animations

https://www.youtube.com/watch?v=3uILUbkR1Ls&list=PL786bPIlqEjRDXpAKYbzpdTaOYsWyjtCX&t=0s&index=246

Rectangle rectangle = new Rectangle(0,0,100,100); - create example  
KeyValue xValue = new KeyValue(rectangle.xProperty(), x); - get x property  
KeyValue yValue = new KeyValue(rectangle.yProperty(), y); - get y property  
  
KeyFrame frame = new KeyFrame(Duration.millis(2000), xValue, yValue); - set move property  
Timeline line = new Timeline(); - create timeline   
line.setCycleCount(Timeline.INDEFINITE); - set not to stop  
line.setAutoReverse(true); - set auto reverse

line.getKeyFrames().addAll(frame); - add frame  
line.play(); - start animation

fade animmation

FadeTransition fade = new FadeTransition(Duration.millis(1000), rectangle);  
fade.setFromValue(1.0);  
fade.setToValue(0.0);  
fade.setCycleCount(Timeline.INDEFINITE);  
fade.setAutoReverse(true);  
fade.play();

Move animation

TranslateTransition translateTransition = new TranslateTransition(Duration.millis(1000), rectangle);  
translateTransition.setFromX(100);  
translateTransition.setFromY(100);  
translateTransition.setToX(300);  
translateTransition.setToY(300);  
translateTransition.setCycleCount(2);  
translateTransition.setAutoReverse(true);  
  
SequentialTransition transition = new SequentialTransition(); - order actions  
transition.getChildren().addAll(translateTransition , fade); - add actions  
transition.setCycleCount(Timeline.INDEFINITE); - unlimited time  
transition.setAutoReverse(true); - reverse  
transition.play(); - start  
  
  
  
group.getChildren().addAll(rectangle);

CSS

Application.setUserAgentStylesheet(getClass().getResource("style.css").toExternalForm()); - set style with full reset

scene.getStylesheets().add(getClass().getResource("style.css").toExternalForm()); - add styles without reset

button.setStyle("..."); - set style hardly  
button.setId("…"); - set id

add video and audio

Media media = new Media("path"); - add video or audio  
MediaPlayer player = new MediaPlayer(media); - add player   
player.play(); - play  
MediaView view = new MediaView(player); - for video to add in group  
  
group.getChildren().addAll(view); - add video to group

Connect html with js

WebView webView = new WebView(); - create web interface  
WebEngine engine = webView.getEngine(); - get engine (main variable)  
engine.load(""); - load file  
  
engine.loadContent(“…”); - write own js or html

JSObject object = (JSObject) engine.executeScript("window"); - get window  
object.setMember("my", new My()); - add class to the engine (enable to write example of classes inside the HTML)  
engine.executeScript(""); - run js script  
  
group.getChildren().addAll(webView); - add view

Charts

ObservableList<PieChart.Data> data = FXCollections.observableArrayList( - create array  
 new PieChart.Data("…", 50), … - set charts (second value don’t have to be more than 100)  
);  
PieChart chart = new PieChart(data); - get chart  
chart.setTitle("…"); - set title  
  
group.getChildren().addAll(chart); - add chart

3D

https://www.youtube.com/watch?v=iqBlEjcCqP0&list=PL786bPIlqEjRDXpAKYbzpdTaOYsWyjtCX&index=253&t=4s

Events when collections are changed

List<String> list = new ArrayList<>(); - create common list  
ObservableList<String> list1 = FXCollections.observableArrayList(list); - create list in fx

list1.addListener(new ListChangeListener<String>() { - add listener  
 @Override  
 public void onChanged(Change<? extends String> c) {  
 }  
});

Threads with listener

class My extends Service<String> { - create class with thread  
 @Override  
 protected Task<String> createTask() {  
 return new Task<String>() {  
 @Override  
 protected String call() throws Exception {  
 return "hello";  
 }  
 };  
 }  
}

My my = new My(); - create new thread variable

my.setOnSucceeded(new EventHandler<WorkerStateEvent>() { - add listener  
 @Override  
 public void handle(WorkerStateEvent event) {  
 }  
});  
my.start(); - start thread