**public class** clienthomefragment **extends** Fragment {  
   
 **public static** String *serviceselected*;  
 GridLayout **mainGrid**;  
  
 **public static** clienthomefragment getInstance()  
 {  
 clienthomefragment clienthomefragment =**new** clienthomefragment();  
 **return** clienthomefragment;  
 }  
  
 **public** View onCreateView(@NonNull LayoutInflater inflater,  
 ViewGroup container, Bundle savedInstanceState) {  
  
 View root = inflater.inflate(R.layout.***client\_home***, container, **false**);  
 **mainGrid**=(GridLayout)root.findViewById(R.id.***mainGrid***);  
  
 **int** i;  
 **for**(i = 0; i<**mainGrid**.getChildCount(); i++){  
 CardView cardView = (CardView)**mainGrid**.getChildAt(i);  
 **final int** finalI = i;  
 cardView.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **if**(finalI==0)  
 {  
 *serviceselected* = **"Appliances"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==1)  
 {  
 *serviceselected* = **"Electrical"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==2)  
 {  
 *serviceselected* = **"Plumbing"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==3)  
 {  
 *serviceselected* = **"Home Cleaning"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==4)  
 {  
 *serviceselected* = **"Tutoring"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==5)  
 {  
 *serviceselected* = **"Packaging Moving"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==6)  
 {  
 *serviceselected* = **"Computer repair"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==7)  
 {  
 *serviceselected* = **"Home repair"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 **if**(finalI==8)  
 {  
 *serviceselected* = **"Pest Control"**;  
 Intent j;  
 j = **new** Intent(getActivity(), Requests.**class**);  
 startActivity(j);  
 }  
 }  
 });  
 }  
 **return** root;  
 }  
}

**public class** AppointmentActivity **extends** AppCompatActivity {  
  
 CalendarView **calendarView**;  
 TextView **mydate**;  
 Button **Confirm\_app**;  
 **public static** String *date*;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_appointment***);  
 **calendarView** = (CalendarView) findViewById(R.id.***calendarView***);  
 **mydate** = (TextView)findViewById(R.id.***mydate***);  
 **Confirm\_app** = (Button)findViewById(R.id.***confirm\_app***);  
 **calendarView**.setOnDateChangeListener(**new** CalendarView.OnDateChangeListener() {  
 @Override  
 **public void** onSelectedDayChange(@NonNull CalendarView view, **int** year, **int** month, **int** dayOfMonth) {  
 *date* = (month+1) + **"/"**+ dayOfMonth + **"/"** + year;  
 **mydate**.setText(*date*);  
 }  
 });  
 **Confirm\_app**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 Intent intopayment = **new** Intent(AppointmentActivity.**this**,paymentActivity.**class**);  
 startActivity(intopayment);  
 }  
 });  
 }  
}

**public class** Appointments {  
  
 **public** String **vendorname**;  
 **public** String **user**;  
 **public** String **date**;  
 **public** String **totalamount**;  
 **public** String **servicename**;  
 **public** String **clientp**;  
 **public** String **status**;  
  
 **public** Appointments(String vendorname,String user, String date, String totalamount, String servicename,String clientp) {  
 **this**.**vendorname** = vendorname;  
 **this**.**user**=user;  
 **this**.**date** = date;  
 **this**.**totalamount** = totalamount;  
 **this**.**servicename** = servicename;  
 **this**.**clientp** = clientp;  
 **status** = **"0"**;  
 }  
  
 **public** Appointments(){ }  
 **public** String getStatus() {  
 **return status**;  
 }  
 **public** String getVendorname() {  
 **return vendorname**;  
 }  
 **public** String getUser() {  
 **return user**;  
 }  
 **public** String getDate() {  
 **return date**;  
 }  
 **public** String getTotalamount() {  
 **return totalamount**;  
 }  
 **public** String getServicename() {  
 **return servicename**;  
 }  
 **public** String getClientp() {  
 **return clientp**;  
 }  
}

**public class** AppointmentStatus **extends** AppCompatActivity {  
  
 DatabaseReference **reference**;  
 RecyclerView **recyclerView**;  
 ArrayList<Appointments> **list**;  
 AppointmentViewHolder **viewHolder**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_appointment\_status***);  
 **recyclerView** = (RecyclerView) findViewById(R.id.***listAppointments***);  
 **recyclerView**.setLayoutManager(**new** LinearLayoutManager(**this**));  
 **reference** = FirebaseDatabase.*getInstance*().getReference().child(**"Appointments"**).child(FirebaseAuth.*getInstance*().getCurrentUser().getUid());  
 **reference**.addValueEventListener(**new** ValueEventListener() {  
 @Override  
 **public void** onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 **list** = **new** ArrayList<Appointments>();  
 **for**(DataSnapshot dataSnapshot1: dataSnapshot.getChildren())  
 {  
 Appointments a = dataSnapshot1.getValue(Appointments.**class**);  
 **if**(a.getStatus().equals(**"0"**)) {  
 **list**.add(a);  
 }  
 }  
 **viewHolder** = **new** AppointmentViewHolder(AppointmentStatus.**this**,**list**);  
 **recyclerView**.setAdapter(**viewHolder**);  
 }  
 @Override  
 **public void** onCancelled(@NonNull DatabaseError databaseError) {  
 Toast.*makeText*(AppointmentStatus.**this**, **"Opsss.... Something is wrong"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 });  
 }  
}

**public class** AppointmentViewHolder **extends** RecyclerView.Adapter<AppointmentViewHolder.MyViewHolder> {  
  
 Context **context**;  
 ArrayList<Appointments> **appoint**;  
  
 **public static** String *sprovidername*, *sclientemail*, *sclientp*, *sservicename*, *stotalpaid*, *sdate* ;  
 **public** AppointmentViewHolder(Context c , ArrayList<Appointments> a){  
 **context** = c;  
 **appoint** = a;  
 }  
 @NonNull  
 @Override  
 **public** AppointmentViewHolder.MyViewHolder onCreateViewHolder(@NonNull ViewGroup parent, **int** viewType) {  
 **return new** MyViewHolder(LayoutInflater.*from*(**context**).inflate(R.layout.***activity\_appointment\_view\_holder***,parent,**false**));  
 }  
 @Override  
 **public void** onBindViewHolder(@NonNull AppointmentViewHolder.MyViewHolder holder, **int** position) {  
 holder.**providername**.setText(**appoint**.get(position).getVendorname());  
 holder.**clientemail**.setText(**appoint**.get(position).getUser());  
 holder.**clientp**.setText(**appoint**.get(position).getClientp());  
 holder.**servicename**.setText(**appoint**.get(position).getServicename());  
 holder.**totalpaid**.setText(**appoint**.get(position).getTotalamount());  
 holder.**day**.setText(**appoint**.get(position).getDate());  
 }  
 @Override  
 **public int** getItemCount() {  
 **return appoint**.size();  
 }  
 **public class** MyViewHolder **extends** RecyclerView.ViewHolder {  
 TextView **providername**, **clientemail**, **clientp**, **servicename**, **totalpaid**, **day**;  
 Button **ChangeAppointment**,**CancelAppointment**;  
 **public** MyViewHolder(@NonNull View itemView) {  
 **super**(itemView);  
 **providername** = (TextView) itemView.findViewById(R.id.***providername***);  
 **clientemail** = (TextView) itemView.findViewById(R.id.***clientemail***);  
 **clientp** = (TextView) itemView.findViewById(R.id.***clientp***);  
 **servicename** = (TextView) itemView.findViewById(R.id.***servicename***);  
 **totalpaid** = (TextView) itemView.findViewById(R.id.***totalpaid***);  
 **day** = (TextView) itemView.findViewById(R.id.***day***);  
 **ChangeAppointment** = (Button) itemView.findViewById(R.id.***ChangeAppointment***);  
 **CancelAppointment** = (Button) itemView.findViewById(R.id.***CancelAppointment***);  
 **CancelAppointment**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 DatabaseReference databaseReference = FirebaseDatabase.*getInstance*().getReference().child(**"Appointments"**).  
 child(FirebaseAuth.*getInstance*().getCurrentUser().getUid());  
 Query query = databaseReference.orderByChild(**"date"**).equalTo(**day**.getText().toString());  
 query.addListenerForSingleValueEvent(**new** ValueEventListener() {  
 @Override  
 **public void** onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 **for** (DataSnapshot appleSnapshot: dataSnapshot.getChildren()) {  
 appleSnapshot.getRef().removeValue();  
 Toast.*makeText*(**context**,**"Your appointment has been Cancelled successfully. Your payment will "** +  
 **"be refunded in a week."**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 @Override  
 **public void** onCancelled(@NonNull DatabaseError databaseError) {  
 }  
 });  
 }  
 });  
 **ChangeAppointment**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **final** String fprovidername= **providername**.getText().toString();  
 *sprovidername* = fprovidername;  
 **final** String fclientemail= **clientemail**.getText().toString();  
 *sclientemail*=fclientemail;  
 **final** String fclientp= **clientp**.getText().toString();  
 *sclientp*=fclientp;  
 **final** String fservicename= **servicename**.getText().toString();  
 *sservicename*=fservicename;  
 **final** String ftotalpaid= **totalpaid**.getText().toString();  
 *stotalpaid*=ftotalpaid;  
 **final** String fdate= **day**.getText().toString();  
 *sdate*=fdate;  
 Intent intonewdate = **new** Intent(**context**, DateChange.**class**);  
 **context**.startActivity(intonewdate);  
 }  
 });  
 }  
 }  
}

**public class** Bid {  
 **private** String **amount**;  
 **private** String **days**;  
 **private** String **vendorid**;  
 **private** String **uid**;  
 **private** String **email**;  
 **private** String **problem**;  
 **private** String **service**;  
  
 **public** Bid(){ }  
 **public** Bid(String amount, String days, String vendorid, String uid, String email, String problem, String service) {  
 **this**.**amount** = amount;  
 **this**.**days** = days;  
 **this**.**vendorid** = vendorid;  
 **this**.**uid** = uid;  
 **this**.**email** = email;  
 **this**.**problem** = problem;  
 **this**.**service** = service;  
 }  
 **public** String getAmount() {  
 **return amount**;  
 }  
 **public** String getDays() {  
 **return days**;  
 }  
 **public** String getVendorid() {  
 **return vendorid**;  
 }  
 **public** String getUid() {  
 **return uid**;  
 }  
 **public** String getEmail() {  
 **return email**;  
 }  
 **public** String getProblem() {  
 **return problem**;  
 }  
 **public** String getService() {  
 **return service**;  
 }  
}

public class ForgetPassword extends AppCompatActivity {  
  
 String username,qusn1,qusn2;  
 EditText emailInput, sec1, sec2;  
 Button changebutton;  
 FirebaseAuth mAuth;  
 DatabaseReference ref;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_forget\_password*);  
 emailInput = (EditText) findViewById(R.id.*emailInput*);  
 sec1 = (EditText) findViewById(R.id.*sec1*);  
 sec2 = (EditText) findViewById(R.id.*sec2*);  
 changebutton = (Button) findViewById(R.id.*changeButton*);  
 changebutton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 final String email=emailInput.getText().toString();  
 final String security1=sec1.getText().toString();  
 final String security2=sec2.getText().toString();  
  
 if(email.equals("")||security1.equals("")||security2.equals("")){  
 Toast.*makeText*(getApplicationContext(),"Fields are empty",Toast.*LENGTH\_SHORT*).show();  
 }  
  
 else {  
  
 ref = FirebaseDatabase.*getInstance*().getReference().child("Customers");  
 ref.addChildEventListener(new ChildEventListener() {  
 @Override  
 public void onChildAdded(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {  
 for (DataSnapshot dataSnapshot1 : dataSnapshot.getChildren()) {  
 username = dataSnapshot1.getValue().toString();  
 if (username.equals(email)) {  
 String id = dataSnapshot.getKey();  
 ref = FirebaseDatabase.*getInstance*().getReference().child("Customers").child(id);  
 ref.addValueEventListener(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 username = dataSnapshot.child("email").getValue().toString();  
  
 qusn1 = dataSnapshot.child("sec1").getValue().toString();  
  
 qusn2 = dataSnapshot.child("sec2").getValue().toString();  
  
 if (security1.equals(qusn1) && security2.equals(qusn2)) {  
 mAuth.*getInstance*().sendPasswordResetEmail(email).addOnCompleteListener(new OnCompleteListener<Void>() {  
 @Override  
 public void onComplete(@NonNull Task<Void> task) {  
 if (task.isSuccessful()) {  
 Toast.*makeText*(getApplicationContext(), "Password reset link send to your email", Toast.*LENGTH\_SHORT*).show();  
 Intent j = new Intent(ForgetPassword.this, UserLogin.class);  
 startActivity(j);  
 }  
 else{  
 Toast.*makeText*(getApplicationContext(), "Unsuccessful", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 }  
 else {  
 Toast.*makeText*(getApplicationContext(), "Security answers are incorrect", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
 }  
 }  
 }  
 @Override  
 public void onChildChanged(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {  
 }  
 @Override  
 public void onChildRemoved(@NonNull DataSnapshot dataSnapshot) {  
 }  
 @Override  
 public void onChildMoved(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {  
 }  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
 }  
  
 }  
 });  
  
  
 }  
}

**public class** paymentActivity **extends** AppCompatActivity {  
 FirebaseAuth **mAuth**;  
 DatabaseReference **ref**;  
 DatabaseReference **databaseReference**;  
 FirebaseDatabase **database**;  
 **public static** String *paytype*;  
 Spinner **spinner3**;  
 Button **pay**;  
 **public static final int *PAYPAL\_REQUEST\_CODE*** = 9999;  
 **static** PayPalConfiguration *config* = **new** PayPalConfiguration().environment(PayPalConfiguration.***ENVIRONMENT\_SANDBOX***)  
 .clientId(Config.***PAYPAL\_CLIENT\_ID***);  
 @Override  
 **protected void** onDestroy() {  
 stopService(**new** Intent(**this**,PayPalService.**class**));  
 **super**.onDestroy();  
 }  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_payment***);  
 **mAuth** = FirebaseAuth.*getInstance*();  
 **database** = FirebaseDatabase.*getInstance*();  
 **ref** = **database**.getReference();  
 **databaseReference**=**database**.getReference();  
 Intent intent = **new** Intent(**this**, PayPalService.**class**);  
 intent.putExtra(PayPalService.***EXTRA\_PAYPAL\_CONFIGURATION***,*config*);  
 startService(intent);  
 **spinner3** = (Spinner) findViewById(R.id.***spinner3***);  
 **pay** = (Button)findViewById(R.id.***pay***);  
 ArrayAdapter<CharSequence> adapter = ArrayAdapter.*createFromResource*(**this**,  
 R.array.***payment\_array***, android.R.layout.***simple\_spinner\_item***);  
 adapter.setDropDownViewResource(android.R.layout.***simple\_spinner\_dropdown\_item***);  
 **spinner3**.setAdapter(adapter);  
 **spinner3**.setOnItemSelectedListener(**new** AdapterView.OnItemSelectedListener() {  
 @Override  
 **public void** onItemSelected(AdapterView<?> parent, View view, **int** position, **long** id) {  
 *paytype* = **spinner3**.getItemAtPosition(position).toString();  
 }  
 @Override  
 **public void** onNothingSelected(AdapterView<?> parent) {  
 }  
 });  
 **pay**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **if**(*paytype*.equals(**"Cash or Cheque"**)){  
 Toast.*makeText*(getApplicationContext(),**"You will pay on service date."**,Toast.***LENGTH\_SHORT***).show();  
 **final** String userinfo=**mAuth**.getCurrentUser().getUid();  
 *//Toast.makeText(getApplicationContext(),userinfo,Toast.LENGTH\_SHORT).show();* **ref** = **ref**.child(**"Customers"**).child(userinfo);  
 **ref**.addValueEventListener(**new** ValueEventListener() {  
 @Override  
 **public void** onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 String email = dataSnapshot.child(**"email"**).getValue().toString();  
 *//Toast.makeText(getApplicationContext(),email,Toast.LENGTH\_SHORT).show();* Appointments appointments = **new** Appointments(BidViewHolder.*vname*,email,AppointmentActivity.*date*,BidViewHolder.*totalbid*,BidViewHolder.*vservice*,BidViewHolder.*vproblem*);  
 **databaseReference**.child(**"Appointments"**).child(userinfo).push().setValue(appointments);  
 }  
 @Override  
 **public void** onCancelled(@NonNull DatabaseError databaseError) {  
 }  
 });  
 Intent intoservice = **new** Intent(paymentActivity.**this**,ClientHomeService.**class**);  
 startActivity(intoservice);  
 }  
 **else**{  
 processPayment();  
 }  
 }  
 });  
 }  
 **private void** processPayment() {  
 PayPalPayment payPalPayment = **new** PayPalPayment(**new** BigDecimal(BidViewHolder.*totalbid*),**"USD"**,**"SMS APP"**,PayPalPayment.***PAYMENT\_INTENT\_SALE***);  
 Intent intent2 = **new** Intent(getApplicationContext(), PaymentActivity.**class**);  
 intent2.putExtra(PayPalService.***EXTRA\_PAYPAL\_CONFIGURATION***,*config*);  
 intent2.putExtra(PaymentActivity.***EXTRA\_PAYMENT***,payPalPayment);  
 startActivityForResult(intent2,***PAYPAL\_REQUEST\_CODE***);  
 }  
 **protected void** onActivityResult(**int** requestCode, **int** resultCode, @Nullable **final** Intent data) {  
 **super**.onActivityResult(requestCode, resultCode, data);  
 **if** (requestCode == ***PAYPAL\_REQUEST\_CODE***) {  
 **if** (resultCode == ***RESULT\_OK***) {  
 PaymentConfirmation confirmation = data.getParcelableExtra(PaymentActivity.***EXTRA\_RESULT\_CONFIRMATION***);  
 **if** (confirmation != **null**) {  
 **try**{  
 String paymentdetails = confirmation.toJSONObject().toString(4);  
 **final** String userinfo=**mAuth**.getCurrentUser().getUid();  
 Toast.*makeText*(getApplicationContext(),userinfo,Toast.***LENGTH\_SHORT***).show();  
 **ref** = **ref**.child(**"Customers"**).child(userinfo);  
 **ref**.addValueEventListener(**new** ValueEventListener() {  
 @Override  
 **public void** onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 String email = dataSnapshot.child(**"email"**).getValue().toString();  
 Toast.*makeText*(getApplicationContext(),email,Toast.***LENGTH\_SHORT***).show();  
 Appointments appointments = **new** Appointments(BidViewHolder.*vname*,email,AppointmentActivity.*date*,BidViewHolder.*totalbid*,BidViewHolder.*vservice*,BidViewHolder.*vproblem*);  
 **databaseReference**.child(**"Appointments"**).child(userinfo).push().setValue(appointments);  
 }  
 @Override  
 **public void** onCancelled(@NonNull DatabaseError databaseError) {  
 }  
 });  
 Toast.*makeText*(**this**,**"Your payment is confirmed and appointment has been confirmed."**,Toast.***LENGTH\_SHORT***).show();  
 startActivity(**new** Intent(**this**, ClientHomeService.**class**));  
 }  
 **catch** (JSONException e){  
 e.printStackTrace();  
 }  
 }  
 }  
 **else if**(resultCode== Activity.***RESULT\_CANCELED***){  
 Toast.*makeText*(**this**,**"Cancel"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 **else if** (resultCode == PaymentActivity.***RESULT\_EXTRAS\_INVALID***){  
 Toast.*makeText*(**this**,**"Invalid"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
}

**public class** Request {  
 **public** String **fullname**;  
 **public** String **email**;  
 **public** String **contact**;  
 **public** String **address**;  
 **public** String **service**;  
 **public** String **problem**;  
 **public** String **userid**;  
  
 **public** Request() { }  
 **public** Request(String fullname, String email,String contact, String address, String service, String problem,String userid) {  
 **this**.**fullname**=fullname;  
 **this**.**email**=email;  
 **this**.**contact**=contact;  
 **this**.**address**=address;  
 **this**.**service**=service;  
 **this**.**problem**=problem;  
 **this**.**userid**=userid;  
 }  
 **public** String getUserid() {  
 **return userid**;  
 }  
 **public** String getFullname() {  
 **return fullname**;  
 }  
 **public** String getEmail() {  
 **return email**;  
 }  
 **public** String getContact() {  
 **return contact**;  
 }  
 **public** String getAddress() {  
 **return address**;  
 }  
 **public** String getService() {  
 **return service**;  
 }  
 **public** String getProblem() {  
 **return problem**;  
 }  
}

**public class** UserLogin **extends** AppCompatActivity **implements** View.OnClickListener {  
 String **email**, **password**;  
 **int counter**=0;  
 EditText **emailInput**;  
 EditText **passwordInput**;  
 TextView **forget\_pw**;  
 Button **loginButton**;  
 Button **registerButton**;  
 FirebaseAuth **mAuth**;  
 **private** FirebaseAuth.AuthStateListener **mAuthStateListener**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_user\_login***);  
 **mAuth**=FirebaseAuth.*getInstance*();  
 **emailInput** = (EditText) findViewById(R.id.***emailInput***);  
 **passwordInput** = (EditText) findViewById(R.id.***passwordInput***);  
 **forget\_pw** = (TextView) findViewById(R.id.***forget\_pw***);  
 **loginButton** = (Button) findViewById(R.id.***loginButton***);  
 **registerButton** = (Button) findViewById(R.id.***registerButton***);  
 **loginButton**.setOnClickListener(**this**);  
 **registerButton**.setOnClickListener(**this**);  
 **forget\_pw**.setOnClickListener(**this**);  
 **mAuthStateListener**=**new** FirebaseAuth.AuthStateListener() {  
  
 @Override  
 **public void** onAuthStateChanged(@NonNull FirebaseAuth firebaseAuth) {  
 FirebaseUser mFirebaseUser = **mAuth**.getCurrentUser();  
 **if**( mFirebaseUser != **null** ){  
 Toast.*makeText*(UserLogin.**this**,**"You are logged in"**,Toast.***LENGTH\_SHORT***).show();  
 Intent i = **new** Intent(UserLogin.**this**, ClientHomeService.**class**);  
 startActivity(i);  
 }  
 **else**{  
 Toast.*makeText*(UserLogin.**this**,**"Please Login"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 };  
 }  
 @Override  
 **public void** onClick(View v) {  
 **switch**(v.getId()){  
 **case** R.id.***loginButton***:  
 **email**=**emailInput**.getText().toString();  
 **password**=**passwordInput**.getText().toString();  
 **if**(**counter**!=4) {  
 **if**(**email**.isEmpty()){  
 **emailInput**.setError(**"Please enter email id"**);  
 **emailInput**.requestFocus();  
 }  
 **else if**(**password**.isEmpty()){  
 **passwordInput**.setError(**"Please enter your password"**);  
 **passwordInput**.requestFocus();  
 }  
 **else if**(**email**.isEmpty() && **password**.isEmpty()){  
 Toast.*makeText*(UserLogin.**this**,**"Fields Are Empty!"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 **else if**(!(**email**.isEmpty() && **password**.isEmpty())){  
 **mAuth**.signInWithEmailAndPassword(**email**,**password**).addOnCompleteListener(UserLogin.**this**, **new** OnCompleteListener<AuthResult>() {  
 @Override  
 **public void** onComplete(@NonNull Task<AuthResult> task) {  
 **if**(!task.isSuccessful()){  
 Toast.*makeText*(UserLogin.**this**,**"Login Error, Please Login Again"**,Toast.***LENGTH\_SHORT***).show();  
 **counter**++;  
 }  
 **else**{  
 Toast.*makeText*(UserLogin.**this**,**"You are logged in"**,Toast.***LENGTH\_SHORT***).show();  
 Intent intToHome = **new** Intent(UserLogin.**this**, ClientHomeService.**class**);  
 startActivity(intToHome);  
 }  
 }  
 });  
 }  
 **else**{  
 Toast.*makeText*(UserLogin.**this**,**"Error Occurred!"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 **else**{  
 Toast.*makeText*(getApplicationContext(), **"You have incorrectly entered password for more than 3 times"**, Toast.***LENGTH\_SHORT***).show();  
 Intent j = **new** Intent(UserLogin.**this**, ForgetPassword.**class**);  
 startActivity(j);  
 }  
 **break**;  
 **case** R.id.***registerButton***:  
 startActivity(**new** Intent(**this**, UserRegister.**class**));  
 **break**;  
 **case** R.id.***forget\_pw***:  
 startActivity(**new** Intent(**this**, ForgetPassword.**class**));  
 **break**;  
 }  
 }  
}

**public class** UserRegister **extends** AppCompatActivity {  
  
 EditText **email\_input**, **pw\_input**, **confirm\_password**, **qusn1**, **qusn2**;  
 Button **REGISTER**;  
 FirebaseAuth **mAuth**;  
 DatabaseReference **ref**;  
 FirebaseDatabase **database**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_user\_register***);  
 **mAuth** = FirebaseAuth.*getInstance*();  
 **database** = FirebaseDatabase.*getInstance*();  
 **ref** = **database**.getReference(**"Customers"**);  
 **email\_input** = (EditText) findViewById(R.id.***email\_input***);  
 **pw\_input** = (EditText) findViewById(R.id.***pw\_input***);  
 **confirm\_password** = (EditText) findViewById(R.id.***confirm\_password*** );  
 **qusn1** = (EditText) findViewById(R.id.***qusn1***);  
 **qusn2** = (EditText) findViewById((R.id.***qusn2***));  
 **REGISTER** = (Button) findViewById(R.id.***REGISTER***);  
 **REGISTER**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **final** String email=**email\_input**.getText().toString();  
 String pw=**pw\_input**.getText().toString();  
 String pw1=**confirm\_password**.getText().toString();  
 **final** String sec1=**qusn1**.getText().toString();  
 **final** String sec2=**qusn2**.getText().toString();  
 **if**(email.equals(**""**)||pw.equals(**""**)||pw1.equals(**""**)||sec1.equals(**""**)||sec2.equals(**""**)){  
 Toast.*makeText*(getApplicationContext(),**"Fields are empty"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 **else**{  
 **if**(pw.equals(pw1))  
 {  
 **mAuth**.createUserWithEmailAndPassword(email,pw).addOnCompleteListener(**new** OnCompleteListener<AuthResult>() {  
 @Override  
 **public void** onComplete(@NonNull Task<AuthResult> task) {  
 **if**(task.isSuccessful())  
 {  
 String user\_id = **mAuth**.getCurrentUser().getUid();  
 User customer = **new** User(email,sec1,sec2);  
 **ref**.child(user\_id).setValue(customer);  
 Toast.*makeText*(getApplicationContext(),**"Registered"**,Toast.***LENGTH\_SHORT***).show();  
 Intent j = **new** Intent(UserRegister.**this**, UserLogin.**class**);  
 startActivity(j);  
 }  
 **else** {  
 Toast.*makeText*(getApplicationContext(),**"Not Registered"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 });  
 }  
 **else** Toast.*makeText*(getApplicationContext(),**"Password do not match"**,Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
  
 });  
 }  
}

**public class** WelcomeScreen **extends** AppCompatActivity {  
 Button **customer**;  
 Button **vendor**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_welcome\_screen***);  
 **customer** = (Button) findViewById(R.id.***customer***);  
 **vendor** = (Button) findViewById(R.id.***vendor***);  
 **customer**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 Intent intToHome = **new** Intent(WelcomeScreen.**this**, UserLogin.**class**);  
 startActivity(intToHome);  
 }  
 });  
 **vendor**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 Intent vendorlogin = **new** Intent(WelcomeScreen.**this**, VendorLogin.**class**);  
 startActivity(vendorlogin);  
 }  
 });  
 }  
}