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//Text Base Adventure Game.

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import java.util.ArrayList;
import java.util.Scanner;

class Location {

    private String story;
    private ArrayList<String> options;
    private ArrayList<Location> nextLocations;
    private ArrayList<Integer> changeHealth;

    public Location(String story) {

        this.story=story;
        options=new ArrayList<>();
        nextLocations=new ArrayList<>();
        changeHealth=new ArrayList<>();
    }

    public String getStory() {
        return story;
    }

    public ArrayList<String> getOptions(){
        return options;
    }

    public ArrayList<Location> getNextLocations(){
        return nextLocations;
    }

    public void printStory() {
        System.out.println(story);
    }

    public void printOptions() {

        System.out.println("Do you want to: ");
        for(int i=0;i<options.size();i++) {
            System.out.println(i+":   "+ options.get(i));
        }
    }

    public Location selectOption(User u) {

        Scanner scan=new Scanner(System.in);
        int option=scan.nextInt();
        if(option<0||option>=options.size()) {
            System.out.println("Invalid option please try again");
            return this;
        }

        if(options.get(option).equals("Check Health")) {
            System.out.println("Your health is: "+ u.getHealth());
            return this;
        }
        u.setHealth(u.getHealth()+changeHealth.get(option));
        return nextLocations.get(option);
    }
}
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    public void addNextLocation(String option, String story, int healthChange){
        options.add(option);
        changeHealth.add(healthChange);
        Location nextLoc= new Location(story);
        nextLocations.add(nextLoc);
    }

    public void addNextLocation(String option, Location loc, int healthChange){
        options.add(option);
        changeHealth.add(healthChange);
        nextLocations.add(loc);
    }
}

class User {

    private String name;
    private int health;

    public User(String name, int health) {
        this.name=name;
        this.health=health;
    }

    public String getName() {
        return name;
    }
    public int getHealth() {
        return health;
    }

    public void setHealth(int health) {
        this.health=health;
    }
}

public class Sol {

    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);
        User u=new User("Captain America", 100);
        Location firstLocation= new Location("Thanos did exactly what he said,
he wiped off half of the population. Hello "+ u.getName()+" , what is your next
move");
        firstLocation.addNextLocation("Find Thanos", "Thanos is resting in a
place what he calls the garden",0);
        firstLocation.addNextLocation("Find Iron Man", "Iron man is lost in the
universe",0);

        firstLocation.getNextLocations().get(0).addNextLocation("Ask Thanos for
infinity stones", "Thanos used infinity stones to destroy infinity stones", 0);
        firstLocation.getNextLocations().get(0).addNextLocation("Check Health",
"Checking Health", 0);

        firstLocation.getNextLocations().get(1).addNextLocation(firstLocation.getOptions().
get(0), firstLocation.getNextLocations().get(0), 0);
        firstLocation.getNextLocations().get(1).addNextLocation("Talk to Ant
Man", "Ant man just returned from the quantum realm, he's proposing time travel as
a solution to get everyone back", 0);
        firstLocation.getNextLocations().get(1).addNextLocation("Check Health",
"Checking Health", 0);
    }
}

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firstLocation.getNextLocations().get(0).getNextLocations().get(0).addNextLocation("
Kill Thanos", "Thanos dies", -20);

firstLocation.getNextLocations().get(0).getNextLocations().get(0).addNextLocation("
Check Health", "Checking Health", 0);

firstLocation.getNextLocations().get(1).getNextLocations().get(1).addNextLocation("
Talk to Hulk", "Hulk tries but is inadequate to help with time travel", 0);

firstLocation.getNextLocations().get(1).getNextLocations().get(1).addNextLocation("
Check Health", "Checking Health", 0);

        Location newLoc1=
firstLocation.getNextLocations().get(0).getNextLocations().get(0).getNextLocations(
).get(0);
        Location newLoc2=
firstLocation.getNextLocations().get(1).getNextLocations().get(1).getNextLocations(
).get(0);

        newLoc1.addNextLocation("Search Iron Man", "With help of Captain Marvel
Iron Man is found", 0);
        newLoc1.addNextLocation("Check Health", "checking health", 0);
        newLoc2.addNextLocation(newLoc1.getOptions().get(0),
newLoc1.getNextLocations().get(0),0);
        newLoc2.addNextLocation("Check Health", "checking health", 0);

        newLoc1=newLoc1.getNextLocations().get(0);

        newLoc1.addNextLocation("Find Thor", "Thor is a changed person. He's
still filled with guilt. He feels he couldn't do anything to stop Thanos. But Hulk
convinces him to come back", 0);
        newLoc1.addNextLocation("Convince Iron Man for time travel", "Iron
man's family is still alive. He doesn't want to leave whatever he's left with now.
But Tony sees a picture of Peter Parker and he gives time travel a shot", 0);
        newLoc1.addNextLocation("Check Health", "checking health", 0);

        Location temp= newLoc1;
        newLoc1=newLoc1.getNextLocations().get(0);
        newLoc2=temp.getNextLocations().get(1);

        newLoc1.addNextLocation("Go back in time and get the infinity stones",
"You're now at the avengers tower. While finding the tesseract you find another
version of yourself from the past", 0);
        newLoc2.addNextLocation(newLoc1.getOptions().get(0),
newLoc1.getNextLocations().get(0),0);
        newLoc1.addNextLocation("Check Health", "checking health", 0);
        newLoc2.addNextLocation("Check Health", "checking health", 0);

        newLoc1= newLoc1.getNextLocations().get(0);

        newLoc1.addNextLocation("Fight another Captain America", "While
fighting you told captain that Bucky is alive and hit him with the sceptor", -30);
        newLoc1.addNextLocation("Surrender and tell the truth", "You
surrendered and captain took you for someone who's part of Loki's army and killed
you. You're now dead. GAME OVER",Integer.MIN_VALUE);
        newLoc1.addNextLocation("Check Health", "checking health", 0);

        newLoc1= newLoc1.getNextLocations().get(0);

        newLoc1.addNextLocation("Accept the fate", "You're now back in the
future. But you lost tesseract and the only chance to bring everyone back.",
Integer.MIN_VALUE);
        newLoc1.addNextLocation("Go further back in time to get tesseract",
"You're at the office of Stark Industries. You manage to get tesseract,

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CONGRATULATIONS!!. You're now returning to the future. But time travel had a
serious impact on your health", -20);
    newLoc1.addNextLocation("Check Health", "checking health", 0);

    newLoc1= newLoc1.getNextLocations().get(1);

    newLoc1.addNextLocation("Wear the gauntlet", "You were not able to
survive the radiations of the infinity stones. You're dead.", Integer.MIN_VALUE);
    newLoc1.addNextLocation("Let Hulk wear the gauntlet", "Hulk snaps and
everyone who disappeared comes back alive. But Thanos' army also finds a way to
come to future", +20);
    newLoc1.addNextLocation("Check Health", "checking health", 0);

    newLoc1= newLoc1.getNextLocations().get(1);

    newLoc1.addNextLocation("Fight Thanos", "In your fight with Thanos,
Iron Man wears the gauntlet and snaps, Thanos is dead. But you lose Iron Man too.",
-50);
    newLoc1.addNextLocation("Leave the fight", "You're living in remorse.
Thanos won again. Things could have been different if you didn't leave the fight",
Integer.MIN_VALUE);
    newLoc1.addNextLocation("Check Health", "checking health", 0);

    newLoc1=newLoc1.getNextLocations().get(0);

    newLoc1.addNextLocation("Return infinity stones to their timeline",
"You've defeated Thanos' army. Now you're back in time to return infinity stones.
But you see Paige here.", 20);
    newLoc1.addNextLocation("Check Health", "checking health", 0);

    newLoc1=newLoc1.getNextLocations().get(0);

    newLoc1.addNextLocation("Stay with Paige", "You're now dancing with
Paige. It all ends well", 3000);
    newLoc1.addNextLocation("You return back", "You're now back with the
avengers family. It all ends well", 3000);
    newLoc1.addNextLocation("Check Health", "checking health", 0);

    while(firstLocation.getNextLocations().size()!=0) {
        firstLocation.printStory();
        firstLocation.printOptions();
        firstLocation=firstLocation.selectOption(u);
        if(u.getHealth()<=0) {
            firstLocation.printStory();
            System.out.println("YOU LOSE");
            return;
        }

        if(u.getHealth()>1000) {
            firstLocation.printStory();
            System.out.println("YOU WIN!!!!");
            return;
        }
    }
}
}

```