

Project 2

<Text Based RPG>

CSC-46090
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7/30/15

Introduction

Title: Text Based RPG

This is a text based rpg that has a basic introduction to the situation and deals with a battle against a creature. Kill the creature before the creature kills you!!

Summary

Project size: 341 lines

Number of Variables: 21 variables

Number of functions: 10

This project contains couple of lessons from the chapters. It starts off with basic cout statements and basic int variables. I decided to initialize a do while loop that keeps the battle commands going until either the creature or player's health power hits zero. They are function that controls the player and monster's health power as well as calculation the attack points and keeps track of their status.

I cleaned up the project more by turning some output of the story into functions. I added two arrays to the game. A 2-D array to make a map that the user select coordinated for a basic ship traveling gameplay. The other array is suppose to be the in game ships computer code that is read from a txt file and outputs the code.

Description

The main reason I programmed this project was to test my knowledge with a game that I've always found entertaining since I was a child.

do

If 1 is pressed

Player Attacks Monster

Monster Attacks Player

Display status

Else if 2 is pressed

Player recovers health and energy

Displays Status

If no more recovering chances

Doesn't recover

Else if 3 is pressed

Player charges weapon-takes up 1 turn

Monster Attacks

Player uses weapon-Higher Damage

Monster attacks

Displays Status

If no more energy

Doesn't fire.

While monster HP is ≤ 0 and Player's HP ≤ 0

If player's HP ≤ 0

Display Game Over Screen

Else if Monster's HP ≤ 0

Display Thank you for playing screen.

Function fileOpen

Shows ShipPC array

Output Game ending!

Type	Variable Name	Description	Location	
<i>Integer</i>	hp	Player's Health power	Main	
	gp	Player's gun energy	Main	
	nc	Number of recovery	Main	
	monHP	Monster's Health power	Main	
	monMP	Monster's Magic Power	Main	
	command	Enter Command option	Main	
	anyKey	to continue	Main	
	attack	random attack points	if (command ==1)	
	mAttack	monster attack points	if (command ==1) and (if command==3)	
	healHP	heals player	if(command==2)	
	healGP	recovers GP	if(command==2)	
	chargeA	Attack from charge gun	if(command==3)	
	sum	sum of player attack	cAtk function	
	mSum	sum of monster attack	mAtk function	
	cSum	sum of charged attack	chrgAtk function	
	x,y	x and y coordinates		
Const Integers				
	row	How many rows		
	colm	how many colm		
Arrays				
	shipPC	Passcode to a in game file		
	map	2-d Array for space traveling		
<i>Functions</i>				

	cStatus	Displays player current stats		
	cAtk	Calculates player attack points		
	mAtk	Calculates monster attack points		
	chrgAtk	Calculate charge attack points		
	title	displays title screen		
	begin	Outputs game intro		
	starMap	Output Space map		
	batIntro	Outputs Introduction to battle		
	spceTrvl	2-d array of space map		
	fileOpen	reads file into shipPC array		

Program

```

/*
 * File:  main.cpp
 * Author: Justin Castaneda
 * Created on July 30, 2015, 1:20 PM
 * Purpose: Text Based RPG_V3
 */
//System Libraries
#include <iostream>
#include <cstdlib>
#include <cmath>
#include <fstream>
#include <string>

using namespace std;

//User Libraries

//Global Constant

```

//Function Prototypes

int cStatus(int,int,int);

int cAtk(int,int);

int mAtk(int,int);

int chrgAtk(int,int);

void title();

void begin();

void starMap();

void batIntro();

int spcTrvl(int [[5],int,int);

int fileOpen(int []);

//Engage!

int main(int argc, char** argv) {

 //Set Random Number

 srand(static_cast<unsigned int>(time(0)));

 //Declare Array

 const int row=5; //Rows in 2-d Array map

 const int colm=5; //Columns in 2-d array map

 int shipPC[5]; //Ships pass code

 int map[row][colm]={{0,0,0,0,0}, //2-D array, Star map for space travel!

 {0,1,0,0,0}, //0=empty space, 1 and 2 are planets

 {0,0,0,0,0},

 {0,0,0,2,0},

 {0,0,0,0,0}};

 //Declare and Initialize Variables

 int hp=175; //User's Starting Health Power

 int gp=50; //User's Starting Gun Power

 int nc=3; //Number of Nova Crystal Shards

 int monHP=275; //Monster's Starting Health Points

 int command; //Inputting command

 int anyKey; //To continue

 int x=0,y=0; //X and Y coordinates for array input

 //Output Game Intro

```

title();
cin.get();

//Begin Game
begin();

//Space Travel with Arrays
starMap();
spcTrvl(map,x,y);

//Battle Sequence
batIntro();
do{
    //Selecting a command
    cout<<endl;
    cout<<"Select 1 to Attack, Select 2 to use Nova Crystal Shard, Select 3 to use
Charged Cannon"<<endl;
    cout<<"Input command...";
    cin>>command;
    cout<<endl;

    //Command 1 Attack
    if (command==1){
        int attack=cAtk(10,1);    //Initiates Player's Attack
        cout<<"You did "<<attack<<" damage to the creature."<<endl;
        monHP=monHP-attack;      //Subtracts from monster
        int mAttack=mAtk(15,1);  //Initiates Monster's Attack
        cout<<"The Creature did "<<mAttack<<" damage to you."<<endl;
        hp=hp-mAttack;           //Subtracts from player
        cStatus(hp,gp,nc);       //Displays current Status

        //Command 2 Healing
    }else if(command==2){
        if(nc<1){    //When nc<1 the player can't recover no more
            cout<<"You have no more Nova Crystals"<<endl;
        }else{
            int healHP=50;    //Recovers HP

```



```

        int healGP=15;    //Recovers GP
        hp=hp+healHP;
        gp=gp+15;
        nc=nc-1;
        cStatus(hp,gp,nc);
    }

```

//Command 3 Charge Shot Takes two turns

```

}else if(command==3){
    if(gp<15){          //When GP is less then 15 Charge Attack cant be used
        cout<<"You have no more GP to execute a charged attack!"<<endl<<endl;
    }else{
        //Charging Weapon Turn 1
        cout<<"You charge your gun to do a powerful attack"<<endl;
        int mAttack=mAtk(15,1);
        cout<<"The Creature did "<<mAttack<<" damage to you."<<endl<<endl;
        hp=hp-mAttack;
        cStatus(hp,gp,nc);
    }

```

//Turn 2 Fire Charge Shot

```

    cout<<"Press any number to unleash charged attack! ";
    cin>>anyKey;        //Continues Attack
    int chargeA=chrgAtk(20,1); //Initiates Player's Charge Attack
    cout<<"Your charge shot did "<<chargeA<<" damage to the creature."<<endl;
    monHP=monHP-chargeA;
    int mAttck=mAtk(15,1);
    cout<<"The Creature did "<<mAttck<<" damage to you."<<endl<<endl;
    hp=hp-mAttck;
    gp=gp-15;           //Charge Attack uses 15 GP
    cStatus(hp,gp,nc);
}
}else{
    cout<<"Wow you put in a number I didn't ask for! Way to go!"<<endl;
    cout<<"Break the game! FINE! JEEZ!!!"<<endl;
}
}

```

//Until Character or Monster's HP reaches 0

```

}while (hp>=0 && monHP>=0);{
}

```

```

if (hp<=0){
    //Lost the game
    cout<<"The creature has defeated you!"<<endl;
    cout<<"-----GAME OVER-----"<<endl;

    }else if (monHP<=0){
    //Won the game
    cout<<"The creature falls and is defeated!!"<<endl;
    cout<<"You search the body and collect the missing Nova Crystals that"<<endl;
    cout<<"the creature has stolen. You also find a security key to a door"<<endl;
    cout<<"You return back to ground base and decide to use the key on the lock
door"<<endl;
    cout<<"You open up the door. All you find is a file with some coding. It
reads:"<<endl;

    //input file into array
    fileOpen(shipPC);

    //Output shipPC array
    for (int j=0;j<5;j++){
        cout<<shipPC[j]<<" ";
    }
    cout<<endl;

    //Ending
    cout<<"You input these codes into a nearby computer. The computer goes
blank"<<endl;
    cout<<"Everything shouts off and on the computer screen a message comes
on:"<<endl<<endl;
    cout<<"\tSKYNET HAS BEEN ACTIVATED.INITIATE HUMAN ANNILATION
PROGRAM!"<<endl<<endl;
    cout<<"\tGood job! You just doomed the entire human race!!"<<endl<<endl;
    cout<<"\t\t\t GAME OVER"<<endl;
    }
return 0;
}

```

```

/*****
***** CHARACTER STATUS *****/

```

```

*           h=hp           health power
*           g=gp           gun power
*           n=nc           nova crystals
*****/

int cStatus(int h,int g, int n){
    cout<<"\t\t_____ "<<endl;
    cout<<"\t\t*****Your HP is "<<h<<"/175*****"<<endl;
    cout<<"\t\t*****Your GP is "<<g<<"/50*****"<<endl;
    cout<<"\t\t*****You have "<<n<<" NCS left.*****"<<endl<<endl;
}

/*****
*
*           Attack
* *****
* Input
*   amin=sides
*   amax=rolls
* Output
*   Return Sum
*****/

int cAtk(int amin,int amax){
    int sum;

    for (int atk=1;atk<=amax;atk++){
        sum=(rand()%amin+15);

        return sum;
    }
}

/*****
*
*           Monster Attack
* *****
* Input
*   amin=sides
*   amax=rolls
* Output
*   Return mSum
*****/

int mAtk(int amin1,int amax1){

```

```

int mSum;

for (int atk=1;atk<=amax1;atk++){
    mSum=(rand()%amin1+15);

    return mSum;
}
}

```

```

/*****
*
*           Charged Shot
* *****/
* Input
*   amin=sides
*   amax=rolls
* Output
*   Return cSum
*****/

```

```

int chrgAtk(int amin,int amax){
    int cSum;

    for (int atk=1;atk<=amax;atk++){
        cSum=(rand()%amin+32);

        return cSum;
    }
}

```

```

/*****
*
*           2-D Array
* *****/
* Input user's coordinates and determine it's location in the array.
*   Declare Variables
*   a[][]=map[5][5]
*   xx= y coordinates
*   yy= x coordinates
*****/

```

```

int spcTrvl(int a[][5],int xx, int yy){

```



```
}
```

```
/******
```

```
*
```

Game Intro

```
*
```

```
*****/
```

```
void begin(){
```

```
    cout<<"\t\t\t*****Space Voyager*****"<<endl;
```

```
    cout<<"You received a distress signal from the Alpha Centauri star system, "<<endl;
```

```
    cout<<"Search for the planet and save the day! You are in a 5X5 star map  
system"<<endl;
```

```
    cout<<"Choose coordinates based on the X and Y plane to select your  
destination"<<endl;
```

```
    cout<<"Distance and time is not a factor. Our warp drive technology is  
awesome"<<endl<<endl;
```

```
    cout<<"\t\t\tPress Enter to open map"<<endl<<endl;
```

```
    cin.get();
```

```
}
```

```
/******
```

```
*
```

Battle Intro

```
*
```

```
*****/
```

```
void batIntro(){
```

```
    cout<<"When arriving you find that the ground station was under attacked."<<endl;
```

```
    cout<<"Upon further searching you find a survivor."<<endl<<endl;
```

```
    cout<<"Survivor:A CREATURE DID THIS!! It came from the valley and attacked  
"<<endl;
```

```
    cout<<"us.It must of came for our resources for energy. It thrives off the"<<endl;
```

```
    cout<<"Nova Crystals that we mine here."<<endl<<endl;
```

```
    cout<<"Filled with rage, you head out into the valley for revenge and  
encounter"<<endl;
```

```
    cout<<"the creature."<<endl<<endl;
```

```
    cout<<"\tAll you have is your Galactic Gun and"<<endl;
```

```
    cout<<"\t3 Nova Crystal Shards(recovers 50 HP and 15 GP)"<<endl;
```

```
}
```

```
/******
```

```
*
```

Display 2-D star map

```
*
```

```
*****/
```

```
void starMap(){
```



```

/*****
*                               *
*           File Open          *
* *****/

* Reads numbers from a file and stores it in an array. *
*   Declare Variables                               *
*   std::fstream infile                             *
*   file name passcode.txt                           *
*   i= counter for while loop                         *
*****/

int fileOpen(int shipCode[]){
    std::fstream infile;
    infile.open("passcode.txt");{
        if(!infile){
            std::cerr << "Error: file could not be opened" << std::endl;
            exit(1);
        }
        std::cout << "File is open" << std::endl;
    }

    int i=0;
    while (i<5&&infile>>shipCode[i]){
        i++;
    }

    return(shipCode[5]);
}

```