#include <stdio.h>

#include <stdlib.h>

/\*

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Description: allocating memory for a set of ADT

\*/

struct engine

{

 char ID[6];

 int HP;

 double CC;

}typedef engine;

void populate(engine\* peng);

void display(engine\* peng, int size);

int main()

{

 /\*engine eng[3];

 engine\* peng = &eng[0];\*/

 int size = 3;

 engine\* peng = malloc(size\*sizeof(engine));

 populate(peng);

 display(peng, size);

 return 0;

}//end main

//======================================

void populate(engine\* peng)

{

 strcpy((peng + 0)->ID, "111111");

 (peng + 0)->HP = 200;

 (peng + 0)->CC = 1.5;

 //-----------------------------------

 strcpy((peng + 1)->ID, "222222");

 (peng + 1)->HP = 300;

 (peng + 1)->CC = 2.5;

 //------------------------------------

 strcpy((peng + 2)->ID, "333333");

 (peng + 2)->HP = 400;

 (peng + 2)->CC = 3.5;

}//end [populate

//=========================================

void display(engine\* peng, int size)

{

 int i = 0;

 for(i = 0; i < size; i++)

 {

 printf("Engine ID: %s\nEngine HP: %d\nEngine CC: %.2f\n", (peng + i)->ID, (peng + i)->HP, (peng + i)->CC);

 printf("=============================================\n");

 }//end for i

}//end displa

Example 2:

#include <iostream>

#include <string.h>

#include <sstream>

//#include <string>

using namespace std;

class student

{

 //declarations

private:

 string name;

 int age;

 double gpa;

 //functions that processes students

 public:

 //code a default constructor

 //const w/o arguments

 student()

 {

 name = " ";

 age = 0;

 gpa = 0.0;

 }

 //const w/ arguments

 /\* student(char\* pname, int age, double gpa)

 {

 strcpy(name, pname);

 this.age = age;

 this.gpa = gpa;

 }\*/

 ~student(){}//delete pointers to mem to release};

 void getStudent()

 {

 string input;

 cout << "Enter student name: "; getline(cin, input, '\n'); name = input;

 cout << "Enter student age :" ; getline(cin, input, '\n'); stringstream convertage(input); convertage >> age;

 cout << "Enter student gpa :" ; getline(cin, input, '\n'); stringstream convertgpa(input); convertgpa >> gpa;

 }//end getStudent

 void dispStudent()

 {

 cout << "Student name: " << name << endl << "\tage: " << age << "\n\tgpa: " << gpa; //'endl' same as '\n'

 cout << endl;

 }//end disStudent

};

int main()

{

 //declaration:

 student st[3];

 student\* pst = &st[0];

 //input

 cout << "=========input=======" << endl;

 for(int i = 0; i < 3; i++)

 (pst + i)->getStudent(); //cout << "student name alone : " << st.name;

 //output

 cout << "=========output=======" << endl;

 for(int i = 0; i < 3; i++)

 (pst + i)->dispStudent();

 return 0;

}