Assignment3

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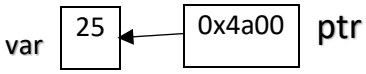
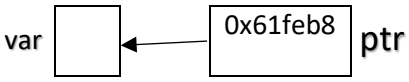
1) i) Valid.



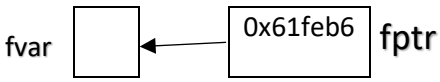
ii) Invalid.The memory address of var should be assigned to pointer variable ptr by using &.

iii) Valid.



iv) Invalid. It is because the data type of fvar is float while the pointer,*ptr, is integer. The integer *ptr cannot point to the float fvar.

v) Valid.



vi) Invalid.The integer var with value 25 should be declared and initialized before assigning an address to the pointer variable,which is ptr.

vii) Invalid.dptr2 is not a pointer so an address cannot be assigned to dptr2.The pointer variable should be declared separately: double *dptr1,*dptr2;

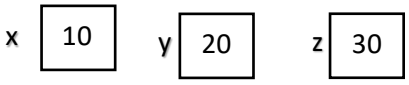
2) Output:

10 20 30

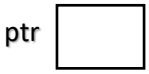
100 80 60

Memory layout:

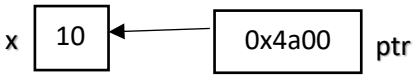
Line 1: int x=10,y=20,z=30;



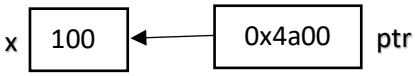
Line 2: int *ptr;



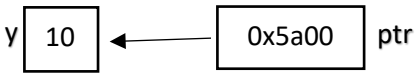
Line 4: ptr=&x;



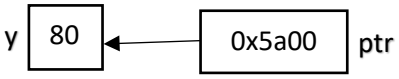
Line 5: *ptr*=10;



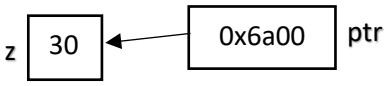
Line 6: ptr=&y;



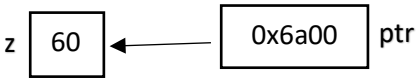
Line 7: *ptr*=4;



Line 8:ptr=&z;



Line 9: *ptr*=2;



3) delete[ ] iPtr;

delete dPtr;

4) i)0xFEC07

ii)2

iii)2

iv)8

5) i)struct Reservation

{

string name;//Passenger name

int age;//passenger age

string code;//passenger code

string location;//departure location

string destination;

int flightnum;

double arrtime;

string status;

};

ii)struct Account

```
{
        int account;
        double balance;
        double rate;
        double deposit;
        double withdraw;
};
```

iii)struct Assessment

```
{
        string name;
        double test1;
        double assignment;
        double quiz;
        double lab;
        double final;
        double coursework;
        double total;
        char grade;
};
```

6) i)struct Car

```
{
        string model;
        double capacity;
        double price;
};
```

ii)Car myCar={“Wira,1.5,50000};

cout<<”Model: ”<<myCar.model<<endl;

cout<<”Engine Capacity: “<<myCar.capacity<<endl;

cout<<”Price: RM “<<myCar.price<<endl;

iii)Car mySecondCar;

mySecondCar.model=”MyVi”;

mySecondCar.capacity=1.3;

mySecondCar.price=45000;

cout<<”Model: “<<mySecondCar.model<<endl;

cout<<”Engine capacity: ”<<mySecondCar.capacity<<endl;

cout<<”Price: “<<mySecondCar.price<<endl;

iv) int total=0;

total=myCar.price+mySecondCar.price;

cout<<”Total of price paid for myCar and mySecondCar: RM“<<total;

v) myCar=mySecondCar;

cout<<"Model:"<<myCar.model<<endl;

cout<<"Engine Capacity: "<<myCar.capacity<<endl;

cout<<"Price: RM"<<myCar.price<<endl;

7)a) i) struct Salary

{

double basic;

double allowances;

};

ii)
```
struct Employee
{
    string name;
    int id;
    Salary salary;
};
```

iii)
```
Employee myEmp;
```

b)
```
void displayEmp(Employee emp)
{
    cout<<"Sample output: "<<endl;
    cout<<"Name: "<<emp.name<<endl;
    cout<<"ID: "<<emp.id<<endl;
    cout<<"Basic salary:RM "<<emp.salary.basic<<endl;
    cout<<"Allowance: RM "<<emp.salary.allowances<<endl;f
}
```