

Lab 3

Answer the following questions based on the declarations given in Program 7.10.

```
// Program 7.10
class nodePhone
{
public:
    string brand, model;
    float price;
    nodePhone * next;

    nodePhone (string br, string md, float pr)
    {
        brand = br;
        model = md;
        price = pr;
    }

    nodePhone() { }

};

nodePhone * first = NULL;
```

Program 7.10 : Node declaration

- a) Given the class definition in Program 7.10, write segment codes to declare pointer two variables: **ptr1** and **ptr2** as shown in **Figure 7.21a** and **Figure 7.21b**. Create two new nodes dynamically to be pointed by **ptr1** and **ptr2** and assign values to the respected nodes with the values as shown in **Figure 7.21a** and **Figure 7.21b**.

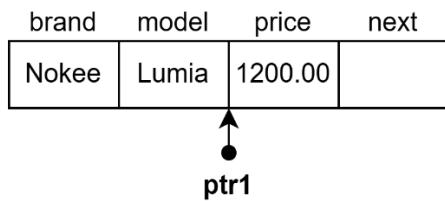


Figure 7.21a: ptr1

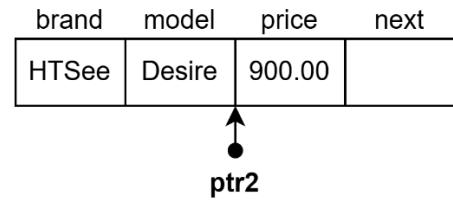


Figure 7.21b: ptr2

- b) Based on the nodes pointed by **ptr1** and **ptr2** as shown in Figure 7.21a and Figure 7.21b, draw the final linked list diagram generated from the program segment below:

```
1 first = ptr2;
2 ptr2->next = ptr1;
3 ptr1->next = first;
4 ptr1->next->model = "Xperia";
```

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- c) Write code segments to delete **current** at the front list of *Figure 7.22* below.

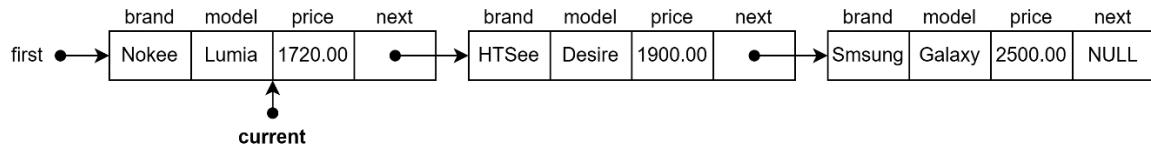


Figure 7.22: Linked List 1

- d) Write code segments to delete **current** in the middle list of *Figure 7.23* below.

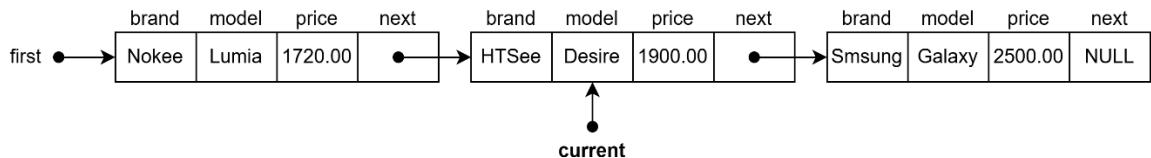


Figure 7.23: Linked List 2

- e) Assume that students can only afford to buy the smart phone with the price that is **less than RM2000.00**. Based on the linked list shown in Figure 7.23, write source codes that will only display the information of the affordable smart phones.

Sample output to be displayed is shown in Figure 7.24.

List of Affordable Smart Phones
Brand : Nokee
Model : Lumia
Price : RM1720.00
The phone is affordable for students.
Brand : HTSee
Model : Desire
Price : RM1900.00
The phone is affordable for students.

Figure 7.24: Output to be displayed