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```
//WAP to implement Hash Table

#include <stdio.h>

#include <stdlib.h>

int ht[10], i, found = 0, key;

void insert();

void search();

void delete();

void display();

int main()

{

   int option;

   for (i = 0; i < 10; i++) // to initialize every element as ‘–1’

      ht[i] = -1;

   do {

      printf("\n***List Of Operations***\n1. Insert \n2. Search \n3. Delete \n4. Display \n5. Exit");

      printf("\nEnter your option: ");

      scanf("%d", &option);

      switch (option) {

      case 1:

         insert();

         break;

      case 2:

         search();

         break;

      case 3:

         delete();

         break;

      case 4:

         display();

         break;

      case 5:
```

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```
            printf("\n\tEXIT POINT!");
        }
    } while (option != 5);
    return 0;
}
void insert()
{
    int val, f = 0;
    printf("Enter the element to be inserted: ");
    scanf("%d", &val);
    key = (val % 10) - 1;
    if (ht[key] == -1)
    {
        ht[key] = val;
    }
    else
    {
        if (key < 9) {
            for (i = key + 1; i < 10; i++) {
                if (ht[i] == -1) {
                    ht[i] = val;
                    break;
                }
            }
        }
        for (i = 0; i < key; i++)
        {
            if (ht[i] == -1) {
                ht[i] = val;
                break;
            }
```

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```
        }
    }
}
void search()
{
    int val, flag = 0;
    printf("Enter the element to be searched: ");
    scanf("%d", &val);
    key = (val % 10) - 1;
    if (ht[key] == val)
        flag = 1;
    else
    {
        for (i = key + 1; i < 10; i++) {
            if (ht[i] == val) {
                flag = 1;
                key = i;
                break;
            }
        }
    }
    if (flag == 0)
    {
        for (i = 0; i < key; i++)
        {
            if (ht[i] == val)
            {
                flag = 1;
                key = i;
                break;
            }
```

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```
        }
    }
    if (flag == 1)
    {
        found = 1;
        printf("\nThe item searched was found at position %d\n", key + 1);
    }
    else
    {
        key = -1;
        printf("\nThe item searched was not found in the hash table\n");
    }
}
void delete()
{
    search();
    if (found == 1)
    {
        if (key != -1)
        {
            printf("\nThe element deleted is %d\n", ht[key]);
            ht[key] = -1;
        }
    }
}
void display()
{
    for (i = 0; i < 10; i++)
        printf("\t%d", ht[i]);
}
```

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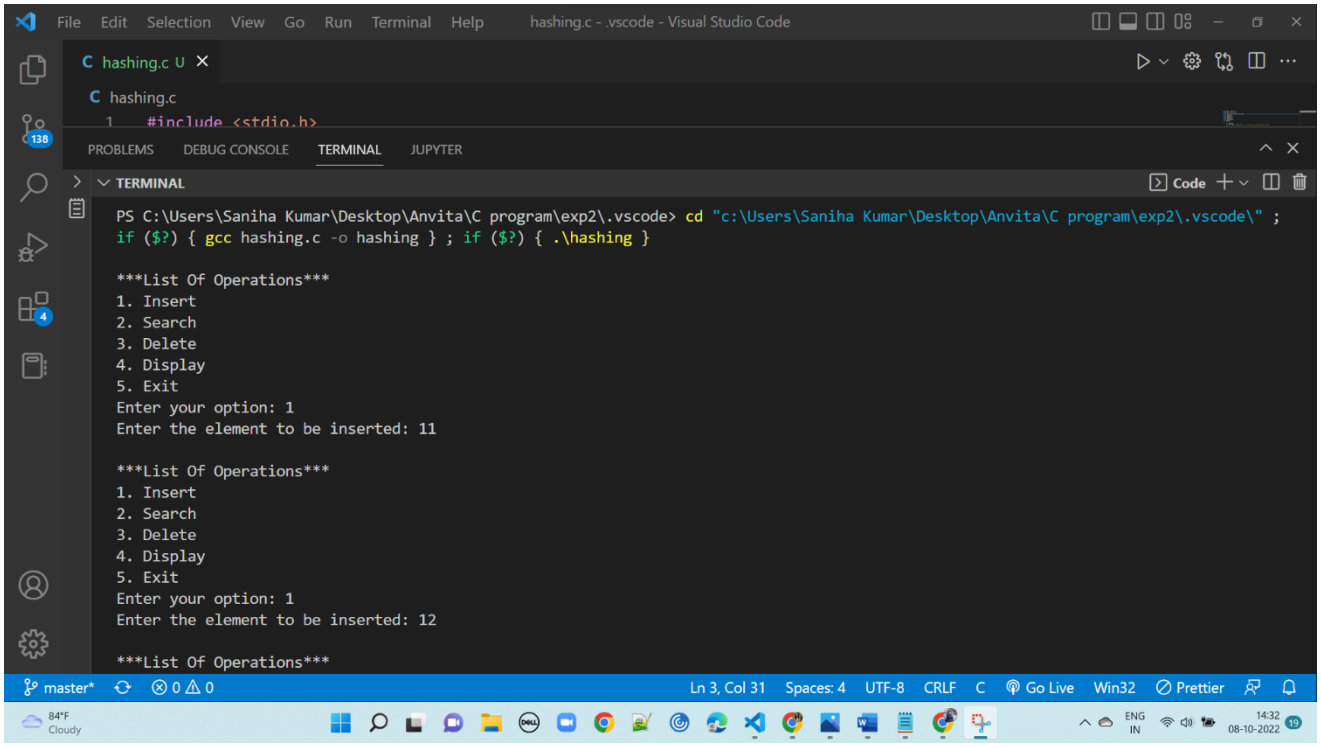

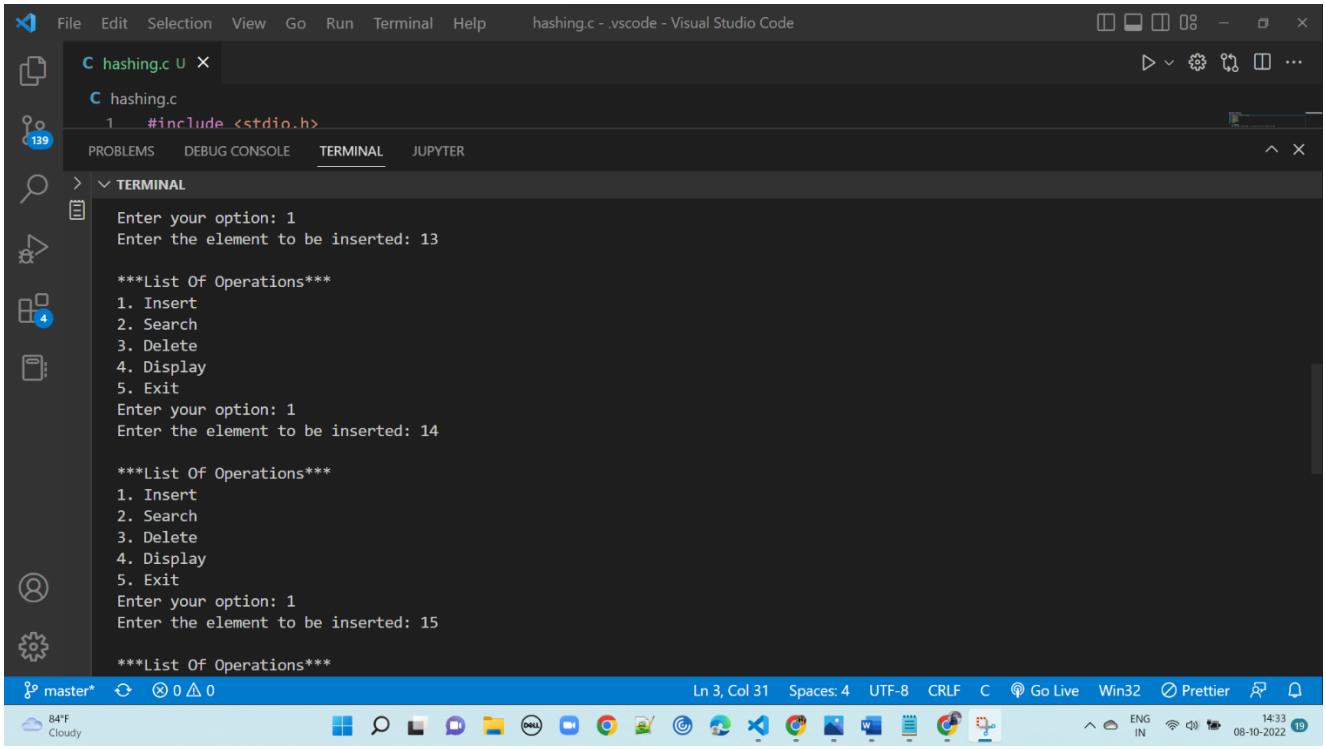

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