Day-4

1. Write a program to implement bubble sort.

Code:

```c
#include<stdio.h>

void bubblesort(int *a,int n){
    for(int i=0; i<n-1;i++){
        for(int j=0; j<n-i-1; j++){
            if(a[j]>a[j+1]){
                int temp=a[j];
                a[j]=a[j+1];
                a[j+1]=temp;
            }
        }
    }
}
int main(){
    printf("Enter the size of an Array\n");
    int n;
    scanf("%d",&n);
    int a[n];
    printf("Enter the Elemnts into the Array\n");
    for(int i=0; i<n; i++){
        scanf("%d",&a[i]);
    }
    bubblesort(a,n);
    for(int i=0; i<n; i++)
```

```
    printf("%d ",a[i]);
}
```

Output:

```
Enter the size of an Array
5
Enter the Elemnts into the Array
78 65 99 44 66
44 65 66 78 99
```

2. Write a program to print the size of all data types?
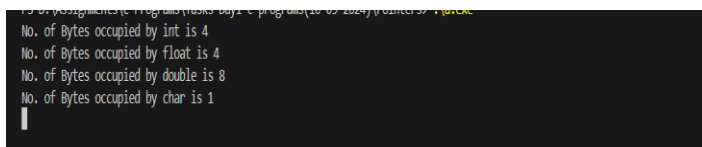
Code:

```
#include <stdio.h>

#include <conio.h>

void main()

{

  printf ("No. of Bytes occupied by int is %d \n", sizeof(int));

  printf ("No. of Bytes occupied by float is %d \n", sizeof(float));

  printf ("No. of Bytes occupied by double is %d \n", sizeof(double));

  printf ("No. of Bytes occupied by char is %d \n", sizeof(char));

  getch();

}
```

Output:

```
No. of Bytes occupied by int is 4
No. of Bytes occupied by float is 4
No. of Bytes occupied by double is 8
No. of Bytes occupied by char is 1
```

3. Write a program to print the address of pointer and value of that pointer.

Code:

```
#include<stdio.h>

int main(){

   int *p,n;
```

```
p=&n;

n=0x18;

printf("%d\n",n);

*p=*p+4;

n=*p+4;

printf("%d %d\n",n,*p);
}
```

Output:

```
24
32 32
```

4. Write a program to swap the Two numbers by using call-by-value and call-by-reference.

Code:

```
#include <stdio.h>
 void swap(int ,int);
 void swap1(int* ,int*);
int main()
{
   int a,b;
   a=5, b=20;
   swap (a,b);
   printf ("\n Swap Fun:  (call by value)  \n a = %d , b = %d ", a,b);
   swap1 (&a, &b);


   printf ("\n Swap1 Fun:  (call by Ref)  \n a = %d , b = %d ", a,b);
   return 0;


}
```

```
void swap (int x, int y)
{

    int tmp;
    tmp = x;
    x=y;
    y=tmp;


}
void swap1 (int *x1, int *y1)
{

    int tmp1;
    tmp1 = *x1;
    *x1=*y1;
    *y1=tmp1;


}
```

Output:


```
Swap Fun:  (call by value)
a = 5 , b = 20
Swap1 Fun:  (call by Ref)
a = 20 , b = 5
```