

Aim:

Write a C program to create dynamic memory allocation using malloc()

Source Code:**malloc.c**

```
#include <stdio.h>
#include <stdlib.h>

int main() {
    int *p,i,n,sum=0;
    float avg;
    printf("Enter the number of integers: ");
    scanf("%d",&n);
    p=(int*)malloc(n*sizeof(int));
    if(p==NULL)
    {
        printf("Insufficient memory");
        exit(0);
    }
    printf("Enter %d integers:\n",n);
    for(i=0;i<n;i++)
    {
        scanf("%d",p+i);
    }
    for(i=0;i<n;i++)
    {
        sum=sum+(p+i);
        avg=(float)sum/n;
    }
    printf("The sum of the integers is %d\n",sum);
    printf("The average of the integers is %0.2f\n",avg);
    free(p);
    return 0;
    // dynamically allocate memory using malloc()

    // calculate the sum of the integers

    // calculate the average of the integers

    // print result

    // free dynamically allocated memory
}
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

Enter the number of integers: 3
Enter 3 integers: 1 5 3
The sum of the integers is 9
The average of the integers is 3.00

Test Case - 2
User Output
Enter the number of integers: 5
Enter 5 integers: 1 2 3 4 5
The sum of the integers is 15
The average of the integers is 3.00