S.No: 2	Exp. Name: ***C program to create dynamic memory allocation using malloc( )***	Date:2023-04-27

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,n,sum=0,i;
float avg;// dynamically allocate memory using malloc()
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+=*(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;
   // 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

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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