

**Department of Computer Science**  
**CSC215 – Procedural Programming**  
**Lab 9b. Pointers and memory**

Write and run the following program.

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

int main(void)
{
    int *pint;
    pint = (int*) malloc(sizeof(int));
    *pint = 12;
    printf("===== malloc =====\n");
    printf("*pint = %d", *pint);

    char *pchar;
    pchar = (char *) malloc(4);
    strcpy(pchar, "Ali");
    printf("\n");
    printf("pchar = %s", pchar);

    printf("\n===== calloc =====\n");
    printf("\nEnter 3 numbers:\n");
    int *ap, i;
    ap = (int *) calloc(3, sizeof(int));
    for(i=0; i<3; i++)
        scanf(" %d", ap+i);
    for(i=0; i<3; i++)
        printf("%d\n", *(ap+i));

    printf("\n===== after free(ap) =====\n");
    free(ap);
    printf("ap==%d\n", *ap);
}
```