

# מטלה 9 – פוינטרים

שאלה 1

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```
#define SIZE 10
#include <stdio.h>
int main()
{
    int arr[SIZE];
    int *addressMin = arr, *addressMax = arr;
    int temp;
    printf("Please insert %d numbers: \n", SIZE);
    for (int *p = arr; p < arr + SIZE; p++)
    {
        scanf("%d", p);
    }
    for (int *p = arr+1; p < arr + SIZE; p++)
    {
        if(*p < *addressMin)
        {
            addressMin = p;
        }
        else
        {
            if (*p > *addressMax)
            {
                addressMax = p;
            }
        }
    }
    printf("The address of the minimum number is %p\n", addressMin);
    printf("The value of the minimum numbers is %d\n", *addressMin);
    temp = *addressMin;
    *addressMin = *addressMax;
    *addressMax = temp;
    printf("The new array is:\n");
    for (int *p = arr; p < arr + SIZE; p++)
    {
        printf("%d ", *p);
    }
    printf("\n");
}
```

```
Please insert 10 numbers:
4 9 8 -6 77 8 9 3 111 0
The address of the minimum number is 0x7ffeefbfff45c
The value of the minimum numbers is -6
The new array is:
4 9 8 111 77 8 9 3 -6 0
Program ended with exit code: 0
```

```

#define SIZE 10
#include <stdio.h>
int main()
{
    int phone_num[SIZE] = {0, 5, 4, 2, 8, 8, 7, 1, 3, 3};
    int *p_phone_num[SIZE];
    int i = 0;
    for (int *ptr1 = p_phone_num; ptr1 < p_phone_num + SIZE; ptr1++)
    {
        *ptr1 = phone_num + i;
        i++;
    }
    printf("My Phone number is: \n");
    for (int *ptr2 = phone_num; ptr2 < phone_num + SIZE; ptr2++)
    {
        printf("%d", *ptr2);
    }
    printf("\n");
    for (int *ptr3 = p_phone_num; ptr3 < p_phone_num + SIZE; ptr3++)
    {
        printf("%p\n", *ptr3);
    }
    printf("\n");
    for (int *ptr4 = p_phone_num; ptr4 < p_phone_num + SIZE; ptr4++)
    {
        int *ptr5 = *ptr4;
        printf("%d", *ptr5);
    }
}

```

```

My Phone number is:
0542887133
00D8F95C
00D8F960
00D8F964
00D8F968
00D8F96C
00D8F970
00D8F974
00D8F978
00D8F97C
00D8F980
0542887133

```

```
#include <stdio.h>
#include <string.h>
#define SIZE 30
void removeSpaces(char *str1);
int main()
{
    char str[SIZE];
    printf("Please insert a sentence up to %d letters: ", SIZE - 1);
    gets(str);
    removeSpaces(str);
    puts(str);
}
void removeSpaces(char *str1)
{
    char *p1 = str1;
    char *p2;
    while (*p1 != '\0')
    {
        if(*p1 == ' ')
        {
            p2 = p1;
            while (*p2 != '\0')
            {
                *p2 = *(p2 + 1);
                p2++;
            }
        }
        p1++;
    }
}
```

```
Please insert a sentence up to 29 letters: warning: this program uses gets(), which is unsafe.
My Life Is Awesome
MyLifeIsAwesome
Program ended with exit code: 0
```

```
#define SIZE 10
#include <stdio.h>
void mirror(int *arr, int size);

int main()
{
    int arr[SIZE];
    printf("Please insert %d numbers:\n", SIZE);

    for (int *p = arr ; p < arr + SIZE ; p++)
    {
        scanf("%d", p);
    }
    mirror(arr, SIZE);
    for (int *p = arr; p < arr + SIZE; p++)
    {
        printf("%d ", *p);
    }
    printf("\n");
}

void mirror(int *arr, int size)
{
    int *s = arr;
    int temp;
    for (int *p = arr + size - 1; p >= arr + size/2; p--)
    {
        temp = *p;
        *p = *s;
        *s = temp;
        s++;
    }
}
```

```
Please insert 10 numbers:
1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1
Program ended with exit code: 0
```