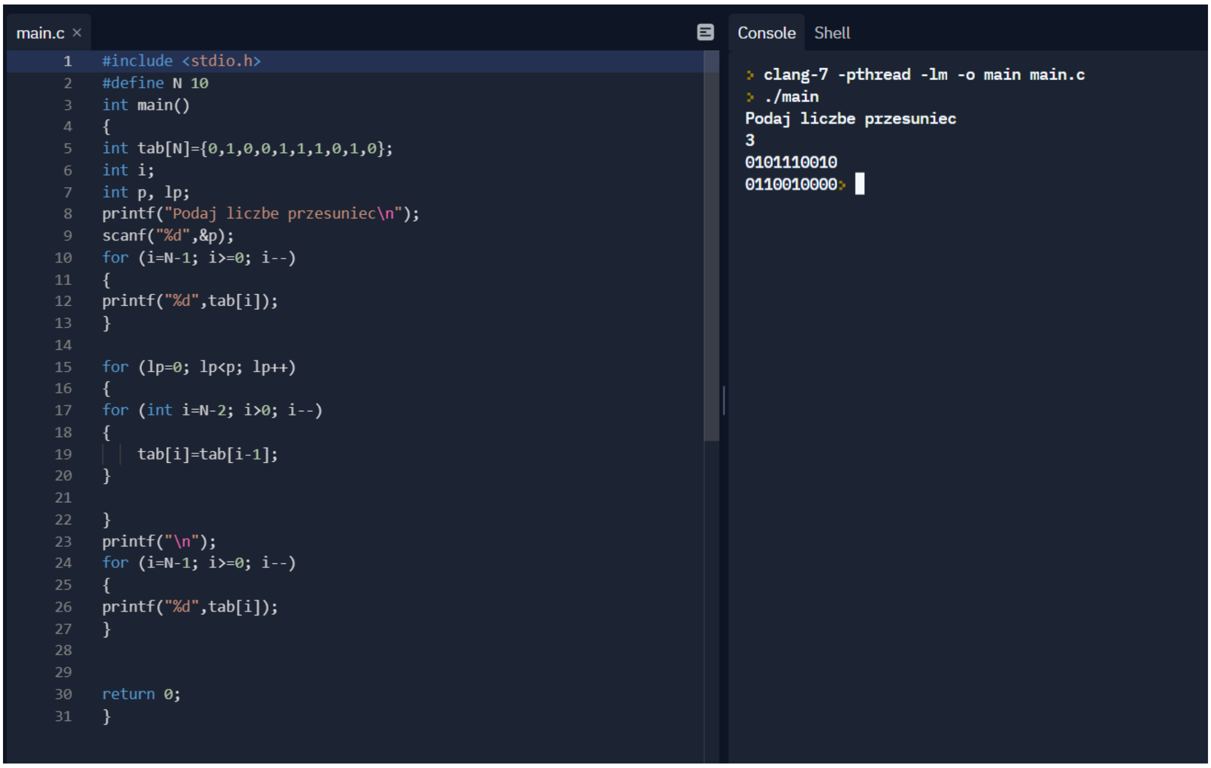
Robert Wojtalewicz 20388 Praca domowa II

Zadanie 1



```c
#include <stdio.h>
#define N 10
int main()
{
int tab[N]={0,1,0,0,1,1,1,0,1,0};
int i;
int p, lp;
printf("Podaj liczbe przesuniec\n");
scanf("%d",&p);
for (i=N-1; i>=0; i--)
{
printf("%d",tab[i]);
}

for (lp=0; lp<p; lp++)
{
for (int i=N-2; i>0; i--)
{
    tab[i]=tab[i-1];
}

}
printf("\n");
for (i=N-1; i>=0; i--)
{
printf("%d",tab[i]);
}


return 0;
}
```

```
> clang-7 -pthread -lm -o main main.c
> ./main
Podaj liczbe przesuniec
3
0101110010
0110010000>
```

Kod:

```c
#include <stdio.h>
#define N 10
int main()
{
int tab[N]={0,1,0,0,1,1,1,0,1,0};
int i;
int p, lp;
printf("Podaj liczbe przesuniec\n");
scanf("%d",&p);
for (i=N-1; i>=0; i--)
{
printf("%d",tab[i]);
}

for (lp=0; lp<p; lp++)
{
for (int i=N-2; i>0; i--)
{
   tab[i]=tab[i-1];
}

}
printf("\n");
```

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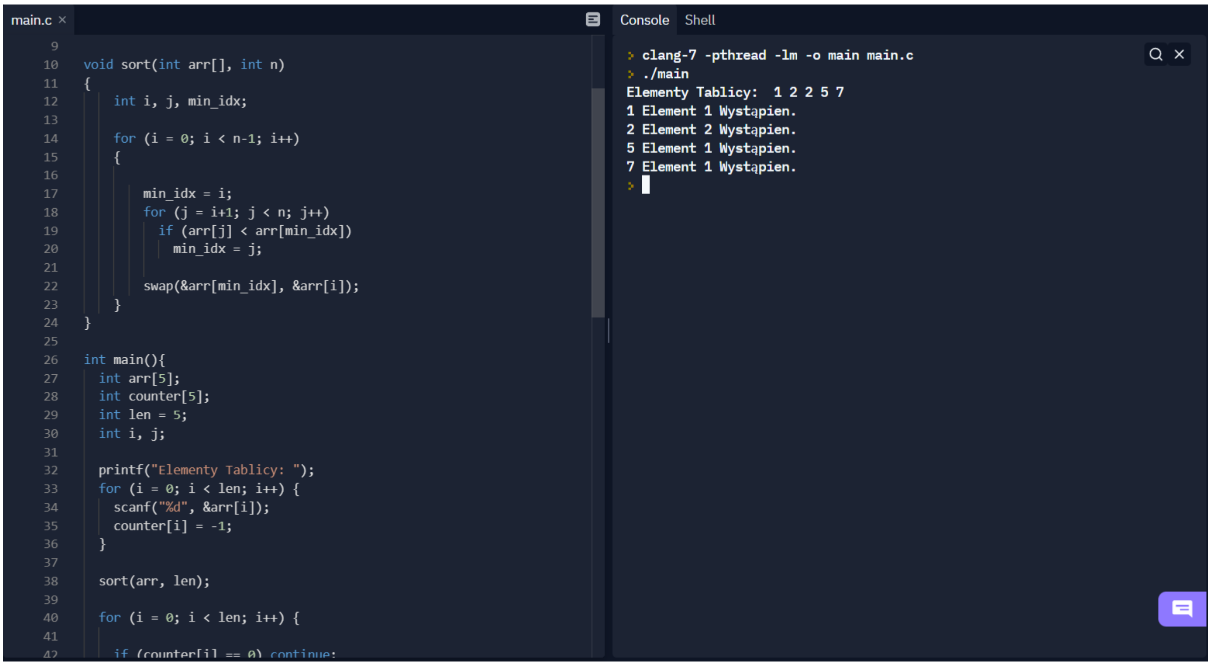
```
for (i=N-1; i>=0; i--)
{
printf("%d",tab[i]);
}


return 0;
}
```

Zadanie 2



```

void sort(int arr[], int n)
{
    int i, j, min_idx;

    for (i = 0; i < n-1; i++)
    {

        min_idx = i;
        for (j = i+1; j < n; j++)
          if (arr[j] < arr[min_idx])
            min_idx = j;

        swap(&arr[min_idx], &arr[i]);
    }
}

int main(){
  int arr[5];
  int counter[5];
  int len = 5;
  int i, j;

  printf("Elementy Tablicy: ");
  for (i = 0; i < len; i++) {
    scanf("%d", &arr[i]);
    counter[i] = -1;
  }

  sort(arr, len);

  for (i = 0; i < len; i++) {

    if (counter[i] == 0) continue;
```

```
> clang-7 -pthread -lm -o main main.c
> ./main
Elementy Tablicy:  1 2 2 5 7
1 Element 1 Wystąpien.
2 Element 2 Wystąpien.
5 Element 1 Wystąpien.
7 Element 1 Wystąpien.
> 
```

Kod:

```
#include <stdio.h>

void swap(int *xp, int *yp)
{
   int temp = *xp;
   *xp = *yp;
   *yp = temp;
}

void sort(int arr[], int n)
{
   int i, j, min_idx;

   for (i = 0; i < n-1; i++)
   {
        min_idx = i;
        for (j = i+1; j < n; j++)
          if (arr[j] < arr[min_idx])
            min_idx = j;

        swap(&arr[min_idx], &arr[i]);
    }
}

int main(){
  int arr[5];
  int counter[5];
  int len = 5;
  int i, j;

  printf("Elementy Tablicy: ");
  for (i = 0; i < len; i++) {
    scanf("%d", &arr[i]);
    counter[i] = -1;
  }

  sort(arr, len);

  for (i = 0; i < len; i++) {

    if (counter[i] == 0) continue;

    counter[i] = 1;
    for (j = i + 1; j < len; j++) {
      if(arr[i] == arr[j]) {
        counter[i]++;
        counter[j] = 0;
      }
    }
  }

  for (i = 0; i < len; i++) {
    if (counter[i] == 0) continue;
    printf("%d Element %d Wystąpien.\n", arr[i], counter[i]);
  }

  return 0;
}
```

Zadanie 3

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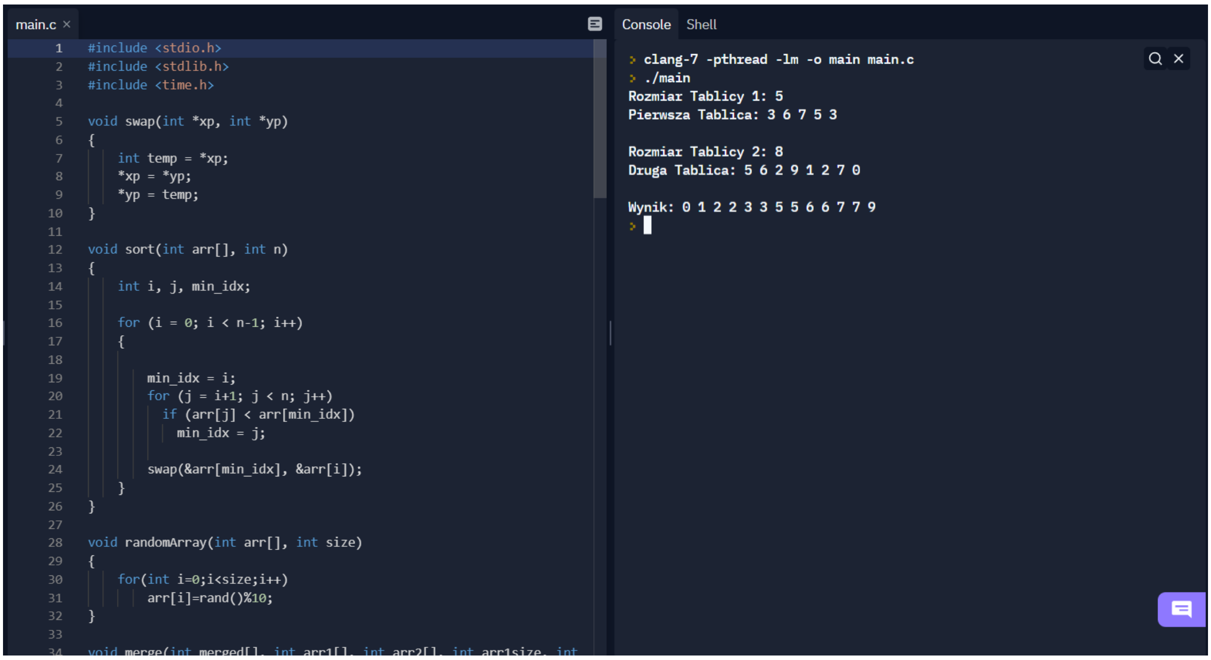

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>

void swap(int *xp, int *yp)
{
    int temp = *xp;
    *xp = *yp;
    *yp = temp;
}

void sort(int arr[], int n)
{
    int i, j, min_idx;

    for (i = 0; i < n-1; i++)
    {

        min_idx = i;
        for (j = i+1; j < n; j++)
          if (arr[j] < arr[min_idx])
            min_idx = j;

        swap(&arr[min_idx], &arr[i]);
    }
}

void randomArray(int arr[], int size)
{
    for(int i=0;i<size;i++)
        arr[i]=rand()%10;
}

void merge(int merged[], int arr1[], int arr2[], int arr1size, int
```

```
> clang-7 -pthread -lm -o main main.c
> ./main
Rozmiar Tablicy 1: 5
Pierwsza Tablica: 3 6 7 5 3

Rozmiar Tablicy 2: 8
Druga Tablica: 5 6 2 9 1 2 7 0

Wynik: 0 1 2 2 3 3 5 5 6 6 7 7 9
> 
```

Kod:

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

void swap(int *xp, int *yp)
{
    int temp = *xp;
    *xp = *yp;
    *yp = temp;
}

void sort(int arr[], int n)
{
    int i, j, min_idx;

    for (i = 0; i < n-1; i++)
    {

        min_idx = i;
        for (j = i+1; j < n; j++)
          if (arr[j] < arr[min_idx])
            min_idx = j;

        swap(&arr[min_idx], &arr[i]);
    }
}
```

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```
void randomArray(int arr[], int size)
{
    for(int i=0;i<size;i++)
        arr[i]=rand()%10;
}

void merge(int merged[], int arr1[], int arr2[], int arr1size, int arr2size, int arr3size)
{
    for(int i = 0; i < arr1size; i++)
            {
            merged[i] = arr1[i];
            }

    for(int i = 0, j = arr1size; j < arr3size && i < arr2size; i++, j++)
            {
                          merged[j] = arr2[i];
            }
}

void printArray(int arr[], int size)
{
    for (int i = 0; i < size; i++)
        printf("%d ", arr[i]);

    printf("\n");
}

int main()
{
    int arr1[2048];
    int arr1len;

    int arr2[2048];
    int arr2len;

    int arr3[2048];

    printf("Rozmiar Tablicy 1: ");
    scanf("%d", &arr1len);

    randomArray(arr1, arr1len);

    printf("Pierwsza Tablica: ");
    printArray(arr1, arr1len);

    printf("\n");

    printf("Rozmiar Tablicy 2: ");
    scanf("%d", &arr2len);

    randomArray(arr2, arr2len);

    printf("Druga Tablica: ");
    printArray(arr2, arr2len);

    printf("\n");

    int arr3len = (arr1len + arr2len);

    merge(arr3, arr1, arr2, arr1len, arr2len, arr3len);

    sort(arr3, arr3len);

    printf("Wynik: ");

    printArray(arr3, arr3len);

    return 0;
}
```