ASSIGNMENT-12

Q1. Find minimum and maximum number in array.

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
 }
int min = arr[0];
 int max = arr[0];
 for (int i = 1; i < n; i++) {
 if (arr[i] < min) {
 min = arr[i];
 }
 if (arr[i] > max) {
 max = arr[i];
 }
 }
 printf("Minimum number: %d\n", min);
 printf("Maximum number: %d\n", max);
 free(arr);
 return 0;
}
```

Q2. Search the given number in array

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

```
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
 }
 int num;
 printf("Enter the number to search: ");
 scanf("%d", &num);
 int found = 0;
 for (int i = 0; i < n; i++) {
 if (arr[i] == num) {
 found = 1;
 printf("Number found at index %d\n", i);
 break;
 }
 }
 if (!found) {
 printf("Number not found\n");
 }
 free(arr);
 return 0;
}
```

Q3. Find sum of all numbers in array

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n;
```

```
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
 }
 int sum = 0;
 for (int i = 0; i < n; i++) {
 sum += arr[i];
 }
 printf("Sum of all numbers: %d\n", sum);
 free(arr);
 return 0;
}
```

Q4. Find odd and even among the numbers in array

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);}
 printf("Odd numbers: ");
 for (int i = 0; i < n; i++) {
 if (arr[i] % 2 != 0) {
 printf("%d ", arr[i]);
 }}
```

```
 printf("\nEven numbers: ");
for (int i = 0; i < n; i++) {
 if (arr[i] % 2 == 0) {
 printf("%d ", arr[i]);
 } }
 free(arr);
 return 0;
}
```

Q5. Print alternate elements in array

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
 }
 printf("Alternate elements: ");
 for (int i = 0; i < n; i += 2) {
 printf("%d ", arr[i]);
 }
 free(arr);
 return 0;
}
```

Q6.Accept array and print only prime numbers of array

```
#include <stdio.h>
#include <stdlib.h>
int isPrime(int num) {
```

```
 if (num <= 1) {
 return 0;
 }
 for (int i = 2; i * i <= num; i++) {
 if (num % i == 0) {
 return 0;
 }
 }
 return 1;
}
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
 }

 printf("Prime numbers: ");
 for (int i = 0; i < n; i++) {
 if (isPrime(arr[i])) {
 printf("%d ", arr[i]);
 }
 }
 free(arr);
 return 0;
}
```

Q7.Take two array and add sum in third array

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

```
#include <stdlib.h>
int main() {
 int n = 5;
 int* arr = (int*)malloc(n * sizeof(int));
 int* brr = (int*)malloc(n * sizeof(int));
 int* crr = (int*)malloc(n * sizeof(int));
 printf("Enter elements for arr:\n");
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
 }
 printf("Enter elements for brr:\n");
 for (int i = 0; i < n; i++) {
 scanf("%d", &brr[i]);
 }
 for (int i = 0; i < n; i++) {
 crr[i] = arr[i] + brr[i];
 }
 printf("Sum array (crr):\n");
 for (int i = 0; i < n; i++) {
 printf("%d ", crr[i]);
 }
 free(arr);
 free(brr);
 free(crr);
 return 0;
}
```

Q8.Merge two arrays in array

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n1, n2;
```

```
printf("Enter the number of elements in the first array: ");
scanf("%d", &n1);
printf("Enter the number of elements in the second array: ");
scanf("%d", &n2);
int* arr1 = (int*)malloc(n1 * sizeof(int));
int* arr2 = (int*)malloc(n2 * sizeof(int));
int* merged = (int*)malloc((n1 + n2) * sizeof(int));
printf("Enter elements for the first array:\n");
for (int i = 0; i < n1; i++) {
scanf("%d", &arr1[i]);
}
printf("Enter elements for the second array:\n");
for (int i = 0; i < n2; i++) {
scanf("%d", &arr2[i]);
}
for (int i = 0; i < n1; i++) {
merged[i] = arr1[i];
}
for (int i = 0; i < n2; i++) {
merged[n1 + i] = arr2[i];
}
printf("Merged array:\n");
for (int i = 0; i < n1 + n2; i++) {
printf("%d ", merged[i]);
}
free(arr1);
free(arr2);
free(merged);
return 0;
}
```

Q9.Reverse the given array

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);}
 int start = 0;
 int end = n - 1;
 while (start < end) {
 int temp = arr[start];
 arr[start] = arr[end];
 arr[end] = temp;
 start++;
 end--; }
 printf("Reversed array:\n");
 for (int i = 0; i < n; i++) {
 printf("%d ", arr[i]); }
 free(arr);
 return 0;}
```

Q10.Sort the array in array

```
#include <stdio.h>
#include <stdlib.h>
int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int* arr = (int*)malloc(n * sizeof(int));
```

```
printf("Enter %d elements:\n", n);
for (int i = 0; i < n; i++) {
scanf("%d", &arr[i]);
}
for (int i = 0; i < n - 1; i++) {
for (int j = 0; j < n - i - 1; j++) {
if (arr[j] > arr[j + 1]) {
int temp = arr[j];
arr[j] = arr[j + 1];
arr[j + 1] = temp;
}
}
}
printf("Sorted array:\n");
for (int i = 0; i < n; i++) {
printf("%d ", arr[i]);
}
free(arr);
return 0;
}
```