**Лаб1:**

**1)**

**#include <stdio.h>**

**#include <stdlib.h>**

**int main()**

**{**

**int a;**

**scanf\_s("%d", &a);**

**if (a / 10 == a % 10)**

**{**

**printf("%d = %d", a / 10, a % 10);**

**return 0;**

**}**

**if (a / 10 > a % 10)**

**printf("max = %d\nmin = %d", a / 10, a % 10);**

**else**

**printf("max = %d\nmin = %d", a % 10, a / 10);**

**return 0;**

**}**

**2)**

**#include <stdio.h>**

**#include <stdlib.h>**

**int main()**

**{**

**int x;**

**printf("x : ");**

**scanf\_s("%d", &x);**

**if (x <= 10)**

**{**

**int fact;**

**fact = x;**

**for (int i = 1; i < x; ++i)**

**{**

**fact \*= x - i;**

**}**

**printf("answer: %d", fact);**

**}**

**else**

**{**

**printf("error");**

**}**

**return 0;**

**}**

**3)**

**#include<stdio.h>**

**#include<stdlib.h>**

**#include<math.h>**

**int main()**

**{**

**int N, k, s = 0;**

**printf("num = ");**

**scanf\_s("%d", &N);**

**printf("^ = ");**

**scanf\_s("%d", &k);**

**for (int i = 1; i <= N; i++)**

**{**

**s += pow(i, k);**

**}**

**printf("sum = %d", s);**

**return 0;**

**}**

**4)**

**#include <stdio.h>**

**#include <stdlib.h>**

**int main()**

**{**

**int a, b;**

**int i;**

**printf("a = ");**

**scanf\_s("%d", &a);**

**printf("b = ");**

**scanf\_s("%d", &b);**

**printf("\n1 = +\n2 = -\n3 = \*\n4 = /\n code = ");**

**scanf\_s("%d", &i);**

**if (i == 1)**

**printf("%d + %d = %d", a, b, a + b);**

**if (i == 2)**

**printf("%d - %d = %d", a, b, a - b);**

**if (i == 3)**

**printf("%d \* %d = %d", a, b, a \* b);**

**if (i == 4)**

**{**

**if (b == 0)**

**{**

**printf(" error ");**

**return 0;**

**}**

**printf("%d / %d = %d", a, b, a / b);**

**}**

**return 0;**

**}**

**5)**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**float a, b, c, d;**

**scanf\_s("%g", &a);**

**scanf\_s("%g", &b);**

**scanf\_s("%g", &c);**

**d = ((b \* b) - (4 \* a \* c));**

**if (d < 0)**

**printf("%g < 0", d);**

**if (d > 0)**

**printf("(-(%g) + %g) / (2 \* %g) = %g \n (-(%g) - %g) / (2 \* %g) = %g", b, sqrt(d), a, ((-(b)+sqrt(d)) / (2 \* a)), b, sqrt(d), a, ((-(b) - (sqrt(d))) / (2 \* a)));**

**if (d == 0)**

**printf("-(%g) / (2 \* %g) = %g", -b, a, -(b) / (2 \* a));**

**return 0;**

**}**

**6)**

**#include <stdlib.h>**

**#include <stdio.h>**

**#include <math.h>**

**int main(void)**

**{**

**double a1, b1, c1, b2, c2, a = 0, b = 0, c = 0, x1, x2, y1, y2, y3, y4, d;**

**printf("a1 = ");**

**scanf\_s("%lf", &a1);**

**printf("b1 = ");**

**scanf\_s("%lf", &b1);**

**printf("c1 = ");**

**scanf\_s("%lf", &c1);**

**printf("b2 = ");**

**scanf\_s("%lf", &b2);**

**printf("c2 = ");**

**scanf\_s("%lf", &c2);**

**a = a1;**

**b = b1 - b2;**

**c = c1 - c2;**

**d = ((b \* b) - (4 \* a \* c));**

**if (d > 0)**

**{**

**x1 = ((-(b)+(sqrt(d))) / (2 \* a));**

**x2 = ((-(b)-(sqrt(d))) / (2 \* a));**

**y1 = a1 \* (x1 \* x1) + b1 \* x1 + c1;**

**y2 = b2 \* x1 + c2;**

**y3 = a1 \* (x2 \* x2) + b1 \* x2 + c1;**

**y4 = b2 \* x2 + c2;**

**if ((y1 == y2) || (y3 == y4))**

**{**

**printf("YES");**

**}**

**else**

**{**

**printf("N0");**

**}**

**}**

**if (d == 0)**

**{**

**x1 = (-(b) / (2 \* a));**

**y1 = a1 \* (x1 \* x1) + b1 \* x1 + c1;**

**y2 = b2 \* x1 + c2;**

**if (y1 == y2)**

**{**

**printf("YES");**

**}**

**else**

**{**

**printf("N0");**

**}**

**}**

**if (d < 0)**

**{**

**printf("net peresecheney\n");**

**}**

**return 0;**

**}**

**7)**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**int a, n, i, s = 1;**

**scanf\_s("%d", &a);**

**scanf\_s("%d", &n);**

**for (i = 1; i <= n; i++)**

**{**

**s \*= a;**

**}**

**printf("%d", s);**

**return 0;**

**}**

**8)**

**#include<stdio.h>**

**#include<stdlib.h>**

**int main()**

**{**

**int a, b, NOD;**

**printf("a = ");**

**scanf\_s("%d", &a);**

**printf("b = ");**

**scanf\_s("%d", &b);**

**while ((a != 0) && (b != 0))**

**if (a >= b)**

**a = a - b;**

**else**

**b = b - a;**

**NOD = a + b;**

**printf("NOD = %d", NOD);**

**return 0;**

**}**

**9)**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**int k;**

**scanf("%d", &k);**

**int\* arr;**

**arr = (int\*)malloc(sizeof(int)\*(k));**

**for (int i = 0; i < k; i++)**

**{**

**arr[i] = i;**

**}**

**arr[1] = 0;**

**for (int j = 2; j < k; j++)**

**{**

**if (arr[j] != 0)**

**{**

**for (int z = j \* j; z < k; z += j)**

**{**

**arr[z] = 0;**

**}**

**}**

**}**

**for (int i = 0; i < k; i++)**

**{**

**if (arr[i] != 0)**

**{**

**printf("%d ", arr[i]);**

**}**

**}**

**return 0;**

**}**

**Лаб2:**

**2)**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**int array[5] = {-8, -1, -9, -4, -7}, sum = 0;**

**for (int i = 0; i < 5; i++)**

**{**

**sum += array[i];**

**}**

**printf("%d", sum);**

**return 0;**

**}**

**5)**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**int array[5] = {1, 3, 7, 8, -4};**

**for (int i = 0; i < 5; i++)**

**{**

**printf("%d ", array[i]);**

**}**

**int min = array[0];**

**for (int i = 1; i < 5; i++)**

**{**

**if (min > array[i])**

**{**

**min = array[i];**

**}**

**}**

**printf("\nmin = %d", min);**

**int max = array[0];**

**for (int i = 1; i < 5; i++)**

**{**

**if (max < array[i])**

**{**

**max = array[i];**

**}**

**}**

**printf("\nmax = %d", max);**

**}**

**6)**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**int array[5] = {-8, -9, -3, 4, 7}, min;**

**for (int i = 0; i < 5; i++)**

**{**

**printf("%d ", array[i]);**

**}**

**for (int i = 1; i < 5; i++)**

**{**

**if (array[i] <= 0)**

**{**

**array[i] = abs(array[i]);**

**if (min > array[i])**

**{**

**min = array[i];**

**}**

**}**

**}**

**printf("\nmin = %d", min);**

**}**

**Лаб3:**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <math.h>**

**int main()**

**{**

**int k;**

**scanf("%d", &k);**

**int\* arr;**

**arr = (int\*)malloc(sizeof(int)\*(k));**

**for (int i = 0; i < k; i++)**

**{**

**arr[i] = i;**

**}**

**arr[1] = 0;**

**for (int j = 2; j < k; j++)**

**{**

**if (arr[j] != 0)**

**{**

**for (int z = j \* j; z < k; z += j)**

**{**

**arr[z] = 0;**

**}**

**}**

**}**

**for (int i = 0; i < k; i++)**

**{**

**if (arr[i] != 0)**

**{**

**printf("%d ", arr[i]);**

**}**

**}**

**return 0;**

**}**