

Answer questions in the spaces provided on the question sheets. All parts of questions 1,2 and 3 **MUST** be answered to receive any points. Write your name in **printed** letters. **Unreadable or unformatted answers will not be checked!**

1. Correct compilation errors in the following code sections. In the boxes below write the line number you are correcting and the corrected code that should be put in that line only. If you think the code will compile write **Will Compile** in a box. Assume used variables, functions and includes have been declared.

```
1for(int i=0, i<10, ++i){
2 printf("%d\n", i);
3}
```

```
1do{
2 printf("%d\n", i);
3 ++i;
4}while(i<10);
```

```
1for(int i=0; i<0; ++i);
2{
3 printf("%d\n", i);
4}
```

a) b) c)

2. Write the output of the following code sections in the boxes. Assume used variables, functions and includes have been declared.

```
1int i=0;
2for(; i<10; ++i){
3 break;
4}
5printf("%d\n", i);
```

```
1int a=4;
2if(a%3) a=5;
3printf("%d\n", a);
```

```
1int a=0;
2for(int i=0; i<10; ++i){
3 a=i;
4}
5printf("%d\n", a);
```

a) b) c)

3. Write a **complete program** printing odd numbers from 0 to 1000, but not those dividable by 9. The program must fit in the boxes below:

1 _____	11 _____
2 _____	12 _____
3 _____	13 _____
4 _____	14 _____
5 _____	15 _____
6 _____	16 _____
7 _____	17 _____
8 _____	18 _____
9 _____	19 _____
10 _____	20 _____

4. Write a **function** of an appropriate type that for 3 double arguments a, b, c calculates and returns the result of a following formula: $\sum_{i=1}^{40} a e^{\frac{1}{i+1}} + \frac{1}{b}$

1 _____	11 _____
2 _____	12 _____
3 _____	13 _____
4 _____	14 _____
5 _____	15 _____
6 _____	16 _____
7 _____	17 _____
8 _____	18 _____
9 _____	19 _____
10 _____	20 _____

5. Write a **function** of an appropriate type that calculates and returns the result of: $e^{\frac{1}{x_1} - \frac{1}{x_2} + \frac{1}{x_3} - \frac{1}{x_4} + \dots}$, for **n** elements, defined as: $x_0 = 2$ and $x_i = -\frac{1}{2}x_{i-1}\sqrt{|x_{i-1}|}$.

1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30

6. Write a **complete program** using functions developed in questions 4 and 5. Do not rewrite the functions, just prototypes. The program should: 1. **Declare 3 variables and read them from the keyboard.** 2. **Use a function from Q4 to initialize a new variable of an appropriate type.** 3. **In a loop call function from Q5 for $n = 5, 10, 15, \dots, 100$. The loop should terminate if the value returned by the function from Q5 is larger than the one calculated with Q4.** 4. **Print both values.** 5. **Print information which value is larger.** The program must fit in the box below:

1	21
2	22
3	23
4	24
5	25
6	26
7	27
8	28
9	29
10	30
11	31
12	32
13	33
14	34
15	35
16	36
17	37
18	38
19	39
20	40