Data

1. Trapezoidal Rule (Q1)
   Polynomial Equation: **$4x^4+2x^2+5$** **[a: lower limit , b: upper limit]**

	S.No.	a	b	Actual Area	Area Est.	Division(n)	Max-Error	Error	max[a,b]f"(x)
0	1	1	2	34.4667	44.0000	1	16.333300	9.533330	196
1	2	1	2	34.4667	36.8750	2	4.083330	2.408330	196
2	3	1	2	34.4667	35.5391	3	1.814810	1.072430	196
3	4	1	2	34.4667	35.0703	4	1.020830	0.603646	196
4	5	1	2	34.4667	34.8531	5	0.653333	0.386453	196
5	6	1	2	34.4667	34.7351	6	0.453704	0.268416	196
6	7	1	2	34.4667	34.6639	7	0.333333	0.197223	196
7	8	1	2	34.4667	34.6177	8	0.255208	0.151009	196

2. Trapezoidal Rule (Q2)
   Polynomial Equation: **x^3+2x+1**

	S.No.	a	b	Actual Area	Area Est.	Division(n)	Max-Error	Error	max[a,b]f"(x)
0	1	2	5	176.25	223.500	1	67.48650	47.250000	29.994
1	2	2	5	176.25	188.062	2	16.87160	11.812500	29.994
2	3	2	5	176.25	181.500	3	7.49850	5.250000	29.994
3	4	2	5	176.25	179.203	4	4.21791	2.953120	29.994
4	5	2	5	176.25	178.140	5	2.69946	1.890000	29.994
5	6	2	5	176.25	177.562	6	1.87463	1.312500	29.994
6	7	2	5	176.25	177.214	7	1.37728	0.964286	29.994
7	8	2	5	176.25	176.988	8	1.05448	0.738281	29.994

3. Simpson's Rule (Q1)
   Polynomial Equation: **$4x^4+2x^2+5$**

	S.No.	a	b	Actual Area	Area Est.	Division(n)	Max-Error	Error	max[a,b]f''(x)
0	1	1	2	34.4667	34.5000	2	0.0333	0.0333	96.0
1	2	1	2	34.4667	34.4688	4	0.0021	0.0021	96.0
2	3	1	2	34.4667	34.4671	6	0.0004	0.0004	96.0
3	4	1	2	34.4667	34.4668	8	0.0001	0.0001	96.0
4	5	1	2	34.4667	34.4667	10	0.0001	0.0001	96.0
5	6	1	2	34.4667	34.4667	12	0.0000	0.0000	96.0
6	7	1	2	34.4667	34.4667	14	0.0000	0.0000	96.0
7	8	1	2	34.4667	34.4667	16	0.0000	0.0000	96.0

4. Simpson's Rule (Q2)
   Polynomial Equation: **x^3+2x+1**

	S.No.	a	b	Actual Area	Area Est.	Division(n)	Max-Error	Error	max[a,b]f''(x)
0	1	2	5	176.25	176.25	2	0.0	0.0	0.0
1	2	2	5	176.25	176.25	4	0.0	0.0	0.0
2	3	2	5	176.25	176.25	6	0.0	0.0	0.0
3	4	2	5	176.25	176.25	8	0.0	0.0	0.0
4	5	2	5	176.25	176.25	10	0.0	-0.0	0.0
5	6	2	5	176.25	176.25	12	0.0	0.0	0.0
6	7	2	5	176.25	176.25	14	0.0	0.0	0.0
7	8	2	5	176.25	176.25	16	0.0	0.0	0.0