

निर्माण प्रबंधन (Construction Management) के सिद्धांत
[Nirman prabandhan (Construction Management) ke Siddhant]
Prof. Chirag Kothari
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Lecture – 34
Anubandh Prabandhan – Mukhy Shabdaavalee

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भारत सरकार की MOOCs पहल के अंतर्गत पाठ्यक्रम
निर्माण प्रबंधन के सिद्धांत
Principles of Construction Management

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Namaskaar. Aapaka svaagat hai bhaarat sarakaar kee moocs pahal ke antargat paathyakram Nirmaan Prabandhan ke Siddhaant (Principles of Construction Management) mein.

(Reference Time 00:24)

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Main chirag kothari, iit kanpur se aapaka svaagat karata hoon aaj ham charcha karenge.

(Reference Time 00:30)



लेक्चर - 34

अनुबंध प्रबंधन मुख्य शब्दावली
Contract Management - Key Terms

Anubandh Prabandhan se judee kuchh mukhy shabdaavalee key terms par.

(Reference Time 00:39)



पाठ्यक्रम के मॉड्यूल

- परिचय एवं विषय अभिप्रेत
- परिचय की भाषा का अनुवाद
- नियंत्रण अनुवाद
- परिचय एवं परिचय
- अनुबंध प्रबंधन
- सुरक्षा प्रबंधन एवं समापन

Yah hamaare anubandh prabandhan module ka ek aakhiree bhaag hai. Abhee tak hamane dekha ki ek contract kya hota hai? Ek achchhe contract mein kya hona chaahie? Phir hamane charcha kee thee ki contract kitane prakaar ke hote hain aur phir hamane charcha kee thee agar kisee prakaar ka dispute hota hai to use kaise resolve kiya jaata hai.

(Reference Time 01:07)



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कुछ प्रमुख शब्द
Some Key Terms



भारत सरकार की सहायता से तैयार किया गया है।

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Aaj ham charcha karenge contract se judee kuchh mukhy shabdaavalee par, yah ek chhota sa lecture rahega. Aaiye ham baat karate hain kuchh key terms kee jo har nirmaan prabandhan mein construction contract mein aam taur par rahatee hain. Sabase pahala hai earnest money deposit, phir ham charcha karenge security deposit pay, phir ham charcha karenge retention money pay, mobilization advance pay, defect liability period pay aur liquidated damages par. Aaj ka yah lecture inheen shabdaavalee par charcha karega.

(Reference Time 01:52)



Department of Civil Engineering Indian Institute of Technology Kanpur

कुछ प्रमुख शब्द
Some Key Terms

अर्नेस्ट मनी डिपॉजिट (Earnest Money Deposit) :

- अर्नेस्ट मनी डिपॉजिट (EMD) का उपयोग टेंडर और बिडिंग प्रक्रिया में किया जाता है।
- अर्नेस्ट मनी वह भुगतान (deposit) या जमा की गई राशि (deposit money) होती है जो कि बिडर (bidder) द्वारा मालिक (owner) के पास जमा की जाती है।
- अर्नेस्ट मनी डिपॉजिट (EMD) के माध्यम से बिडर की अनुबंध के प्रति प्रतिबद्धता (commitment) तथा उसकी गंभीरता (seriousness) सुनिश्चित की जाती है।

रिटेंशन मनी (Retention Money) :

- रिटेंशन मनी (Retention Money) उस राशि को कहते जो कि मालिक (owner) ठेकेदार द्वारा अपने कार्य या ऐसा कार्य जो कि मानकों के अनुसार न हो, को ठीक करने के लिए सुरक्षा के रूप में रख लेता है। यह राशि किए गए कार्य का एक निश्चित प्रतिशत होती है।

भारत सरकार की सहायता से तैयार किया गया है।

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Sabase pahale ham baat karate hain earnest money deposit kee. Jaanate hain earnest money deposit kya hota hai? Earnest money deposit ka upayog tendar evan bidding kee prakriya mein kiya jaata hai. Yah vah bhugataan ya jama raashi hotee hai jo bidder dvaara maalik ke paas jama kee jaatee hai, jo bhee agency ya vyakti bid kar raha hai vah maalik ko yah raashi deta hai. Is raashi ke maadhyam se bidder kee anubandh ke prati pratibaddhata (commitment)

tatha gambheerata (seriousness) sunishchit ho jaatee hai. Aaiye ise ham udaaharan se samajhate hain, maan leejie ek tendar hai jahaan par owner chaahate hain ki unaka ghar banaaya jae, ab unhonne maan leejie ek notice inviting tender, nit nikaala. Alag-alag bidders ne bid kiya unhonne kaha ki vah kitane raashi mein yah makaan bana denge. Us notice inviting tender mein ek earnest money deposit likhee hotee hai, jo bhee vyakti vah bid jama karata hai use yah earnest money deposit bhee jama karane hotee hai, isase yah sunishchit ho jaata hai ki agar yah kaary us bidder ko diya jaata hai to vah ise pakka se karega. Agar kisee kaaran se vah bidder mana karata hai kaam karane se to jo maalik hai ya owner hai vah earnest money deposit ko apne paas rakh sakata hai. To main ummeed karata hoon ki aap samajh gae honge ki jitane bhee bidders hote hain jo ek project ke lie bid karate hain vah sab earnest money deposit ko submit karate hain aur baad mein agar maan leejie unhen yah contract nahin milata hai to yah earnest money deposit unhen refund kar dee jaatee hai.

Ab isake baad ham charcha karate hain ek doosaree mukhy term par jo hai retention money. Retention money aam taur par har running account bill mein kuchh amount hota hai jise rok liya jaata hai. Maan leejie is maheene mein kaam hua 100 rupaye ka, to maalik 100 rupaye dene ke jagah kuchh pratishat maan leejie 5 se 10 percent apne paas rakhata hai aur sirph bache hue 90 rupe ka bhugataan karata hai. Retention money us raashi ko kaha jaata hai jo maalik thekedaar dvaara adhoore kaary ya aise kaary jo maanakon ke anusaar nahin hue hon unako theek karaane ke lie suraksha ke roop mein rakh latea hai, generally mainne aapako bataaya yah ek nishchit pratishat hota hai. Retention money se yah sunishchit ho jaata hai ki maan leejie jo kaary aaj kiya gaya hai jisaka maan leejie is maheene ke ant mein payment hoga usamen agar kisee bhee kaaran koee problam aatee hai ya maan leejie koee chhota kaary bacha hua rah jaata hai to us kaary ko poorn karane ke jimmedaaree thekedaar ke rahegee aur owner apne paas retention money rakhakar surakshit mahasoos karata hai yah sunishchit ho jaata hai ki jo thekedaar hai vah us kaary ko poorn karega. Retention money aamataur par kisee bhee project ke ant mein kuchh maheene baad lauta dee jaatee hai. To hamane baat kee ki har running account bill ya har maheene jo bill hota hai usase kuchh raashi kaat lee jaatee hai aur bacha hua bhugataan kiya jaata hai yah raashi owner ke paas rahatee hai aur project end hone ke baad kuchh maheene baad vah raashi lauta dee jaatee hai jab yah sunishchit ho jae ki sab kaary poorn ho chuka hai aur sahee tareeke se ho chuka hai.

(Reference Time 05:55)



कुछ प्रमुख शब्द
Some Key Terms

मोबिलाइजेशन एडवॉन्स (Mobilization advance) :

टेकेदार को किया गया प्रारंभिक भुगतान (initial payment) मोबिलाइजेशन एडवॉन्स (Mobilization Advance) कहलाता है। यह टेकेदार को अनुबंध के अनुरूप निर्माण कार्य शुरू करने तथा उसे निष्पादित करने (execute) में सहायता करता है।

डिफेक्ट लायबिलिटी पीरियड (Defect liability period) :

यह एक निर्माण परियोजना के पूरा होने के बाद की एक निर्दिष्ट या निश्चित अवधि (specified period) है जिसके दौरान होने वाली किसी भी दोष या दोषों को ठीक करने की जिम्मेदारी टेकेदार की होती है।

Isake baad ham charcha karenge ek aur term par jo hai mobilization advance. Mobilization advance aap shabd se samajh chuke honge ki yah thekedaar ko kiya gaya praarambhik bhugataan (initial payment) hota hai, yah thekedaar ko anubandh ke anuroop nirmaan kaary shuroo karane tatha use execute karane mein sahaayak hota hai. Mobilization advance aam taur par bade projects par hota hai. Mobilization advanced kaary shuroo hone ke pahale diya jaata hai lekin maalik chaahe to kuchh terms and conditions rakh sakate hain jaise ki maalik kah sakate hain ki mobilization advance isee shart par milega ki thekedaar kam se kam apane 10 engineers aur maan leejie kuchh machines, screens aadi ko mobilizes kare site par leke aae jab vah inhen site par leke aa jaega to unhen mobilization advance mil jaega. Anubandh mein yah bhee likha rahata hai ki mobilization advance vaapas chukaana hai ki nahin. Agar mobilization advance ko vaapas chukaana hota hai to generally har running account bill har (ra bill) ka kuchh percentage mobilization advance ka vaapas bhugataan karane mein upayog hota hai.

Isake baad aata hai defect liability period. Defect liability period bhee nirmaan anubandh ka ek bahut jaroree bhaag hai. Defect liability period kisee bhee nirmaan pariyojana ke poore hone ke baad ka ek nishchit avadhi hai (specified period) hai jisamen kaha jaata hai ki agar is dauraan koee bhee dosh aata hai ya kisee bhee dosh ko theek karana hota hai to use theek karane kee jimmedaaree thekedaar kee rahegee aur kisee bhee prakaar ka agar koee kharcha hota hai to vah bhee thekedaar uthaayega. Generally alag-alag projects par defect liability period alag-alag rahata hai. Residential projects par aam taur par 2 se 3 saal ka defect liability period rahata hai. Isaka matalab yah hua ki nirmaan poorn hone ke baad agar do se teen saal tak koee bhee samasya aatee hai to thekedaar kee jimmedaaree hogee ki vah us samasya ko door kare.

(Reference Time 08:19)



सिक्योरिटी डिपॉजिट (Security deposit) :

अनुबंध में दिए परिभाषित दायित्वों (contractual obligations) का पालन करवाने के लिए सुरक्षा के रूप में मालिक (owner) द्वारा मांगी जाने वाली राशि।

लिक्विडेटेड डैमेज (परिसमापन क्षति, Liquidated damages) :

अनुबंध में किसी एक पक्ष को होने वाले अमूर्त नुकसान या वह नुकसान जिसे परिभाषित कर पाना मुश्किल हो, के अनुमान को लिक्विडेटेड डैमेज कहते हैं। अनुबंध के उल्लंघन की तिथि में इन नुकसानों का भुगतान किया जाता है। अनुबंध में पहले से ही इस अनुमान का आकलन करने की विधि आदि की चर्चा होती है।

Isake baad ham aate hain security deposit par. Dhyaan rakhiega security deposit earnest money deposit se alag hota hai. Mainne bataaya tha earnest money deposit sabhee bidders jo bid kar rahe hain vah sab bharte hain lekin security deposit sirph vah thekedar bharta hai jise contract mil jaata hai. Security deposit anubandh mein die paribhaashit daayitv jo bhee contractual obligations hain usaka paalan karavaane mein suraksha ke roop mein maalik ke paas rahata hai. Matalab yah hua ki jab ham kisee bhee contract mein judate hain to ham maalik ko ek security deposit dete hain. Yah raashi owner ke paas rahatee hai. Maan leejie kisee kaaran se jo thekedar hai vah contract mein likhe hue har kaary ko poorn nahin kar pata hai to maalik ke paas yah option hota hai ki vah security deposit ko use kar sake aur us kaary ko poora kara sake. To security deposit ek tarah kee suraksha raashi hai jo maalik ke paas rahatee hai jisase yah sunishchit karaana aasaan ho jaata hai ki thekedar contract mein likhe huee har condition aur obligations ko poora karega aur har baat ka paalan karega.

Aakhiree term jo nirmaan prabandhan mein bahut important hai vah hai liquidated damages. Anubandh mein kisee ek paksh ko hone vaale aise nukasaan jinako paribhaashit kar paana mushkil ho unhen liquidated damages kahate hain. Udaaharan ke taur par maan leejie ek thekedar koee bahut badee factory bana rahe hain. Ab kisee kaaran se vah factory ka nirmaan maan leejie 6 maheena late ho jaata hai, ab owner ya maalik kah sakate hain ki 6 maheene kisee factory ke late hone se unhen bahut jyaada nukasaan ho raha hai lekin us nukasaan ka exact moolyaankan karana mushkil ho sakata hai ya kae baar yah ho sakata hai ki vah jo nukasaan hai vah itana jyaada hai ki vah contract kee value se bhee bahut jyaada ho jaata hai aur thekedar use dene ke lie nahin maanata hai. In tarah kee sabhee samasyaon se bachane ke lie aamataur par kisee bhee anubandh mein pahale hee ek liquidated damage ka clause hota hai jisamen likha hota hai ki agar kisee bhee kaaran se koee project ya nirmaan kaary late hota hai to kitana raashi bhugataan kiya jaega. Anubandh ke ullanghan kee sthiti mein nukasaan ka bhugataan kaise hoga aur us nukasaan ka aakalan kaise kiya jaega, isakee charcha project ke starting mein jab anubandh ban raha hai tabhee kee jaatee hai aur liquidated damages ka clause agar kisee kaaran se nirmaan kaary late hota hai to bahut hee jyaada important ho jaata hai. Liquidated damages ka clause tabhee use hota hai agar kisee kaaran se project maan leejie late ho jaata hai ya kisee ek paksh ka aisa kuchh nukasaan hota hai jisaka moolyaankan kar paana mushkil hai.

To aaj ke lecture mein hamane kuchh mukhy shabdon par charcha kee. Isake alaava bhee kuchh any shabd hai jo aamataur par contract mein rahate hain lekin is lecture ka uddeshy tha ki kuchh shabdaavalee jo nirmaan prabandhan ya construction contracts mein aamataur par use hotee hai us par charcha kee jae.

(Reference Time 12:18)



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At the bottom, there is a footer with the text 'www.iitk.ac.in/contracts/1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-1232-1233-1234-1235-1236-1237-1238-1239-1240-1241-1242-1243-1244-1245-1246-1247-1248-1249-1250-1251-1252-1253-1254-1255-1256-1257-1258-1259-1260-1261-1262-1263-1264-1265-1266-1267-1268-1269-1270-1271-1272-1273-1274-1275-1276-1277-1278-1279-1280-1281-1282-1283-1284-1285-1286-1287-1288-1289-1290-1291-1292-1293-1294-1295-1296-1297-1298-1299-1300-1301-1302-1303-1304-1305-1306-1307-1308-1309-1310-1311-1312-1313-1314-1315-1316-1317-1318-1319-1320-1321-1322-1323-1324-1325-1326-1327-1328-1329-1330-1331-1332-1333-1334-1335-1336-1337-1338-1339-1340-1341-1342-1343-1344-1345-1346-1347-1348-1349-1350-1351-1352-1353-1354-1355-1356-1357-1358-1359-1360-1361-1362-1363-1364-1365-1366-1367-1368-1369-1370-1371-1372-1373-1374-1375-1376-1377-1378-1379-1380-1381-1382-1383-1384-1385-1386-1387-1388-1389-1390-1391-1392-1393-1394-1395-1396-1397-1398-1399-1400-1401-1402-1403-1404-1405-1406-1407-1408-1409-1410-1411-1412-1413-1414-1415-1416-1417-1418-1419-1420-1421-1422-1423-1424-1425-1426-1427-1428-1429-1430-1431-1432-1433-1434-1435-1436-1437-1438-1439-1440-1441-1442-1443-1444-1445-1446-1447-1448-1449-1450-1451-1452-1453-1454-1455-1456-1457-1458-1459-1460-1461-1462-1463-1464-1465-1466-1467-1468-1469-1470-1471-1472-1473-1474-1475-1476-1477-1478-1479-1480-1481-1482-1483-1484-1485-1486-1487-1488-1489-1490-1491-1492-1493-1494-1495-1496-1497-1498-1499-1500-1501-1502-1503-1504-1505-1506-1507-1508-1509-1510-1511-1512-1513-1514-1515-1516-1517-1518-1519-1520-1521-1522-1523-1524-1525-1526-1527-1528-1529-1530-1531-1532-1533-1534-1535-1536-1537-1538-1539-1540-1541-1542-1543-1544-1545-1546-1547-1548-1549-1550-1551-1552-1553-1554-1555-1556-1557-1558-1559-1560-1561-1562-1563-1564-1565-1566-1567-1568-1569-1570-1571-1572-1573-1574-1575-1576-1577-1578-1579-1580-1581-1582-1583-1584-1585-1586-1587-1588-1589-1590-1591-1592-1593-1594-1595-1596-1597-1598-1599-1600-1601-1602-1603-1604-1605-1606-1607-1608-1609-1610-1611-1612-1613-1614-1615-1616-1617-1618-1619-1620-1621-1622-1623-1624-1625-1626-1627-1628-1629-1630-1631-1632-1633-1634-1635-1636-1637-1638-1639-1640-1641-1642-1643-1644-1645-1646-1647-1648-1649-1650-1651-1652-1653-1654-1655-1656-1657-1658-1659-1660-1661-1662-1663-1664-1665-1666-1667-1668-1669-1670-1671-1672-1673-1674-1675-1676-1677-1678-1679-1680-1681-1682-1683-1684-1685-1686-1687-1688-1689-1690-1691-1692-1693-1694-1695-1696-1697-1698-1699-1700-1701-1702-1703-1704-1705-1706-1707-1708-1709-1710-1711-1712-1713-1714-1715-1716-1717-1718-1719-1720-1721-1722-1723-1724-1725-1726-1727-1728-1729-1730-1731-1732-1733-1734-1735-1736-1737-1738-1739-1740-1741-1742-1743-1744-1745-1746-1747-1748-1749-1750-1751-1752-1753-1754-1755-1756-1757-1758-1759-1760-1761-1762-1763-1764-1765-1766-1767-1768-1769-1770-1771-1772-1773-1774-1775-1776-1777-1778-1779-1780-1781-1782-1783-1784-1785-1786-1787-1788-1789-1790-1791-1792-1793-1794-1795-1796-1797-1798-1799-1800-1801-1802-1803-1804-1805-1806-1807-1808-1809-1810-1811-1812-1813-1814-1815-1816-1817-1818-1819-1820-1821-1822-1823-1824-1825-1826-1827-1828-1829-1830-1831-1832-1833-1834-1835-1836-1837-1838-1839-1840-1841-1842-1843-1844-1845-1846-1847-1848-1849-1850-1851-1852-1853-1854-1855-1856-1857-1858-1859-1860-1861-1862-1863-1864-1865-1866-1867-1868-1869-1870-1871-1872-1873-1874-1875-1876-1877-1878-1879-1880-1881-1882-1883-1884-1885-1886-1887-1888-1889-1890-1891-1892-1893-1894-1895-1896-1897-1898-1899-1900-1901-1902-1903-1904-1905-1906-1907-1908-1909-1910-1911-1912-1913-1914-1915-1916-1917-1918-1919-1920-1921-1922-1923-1924-1925-1926-1927-1928-1929-1930-1931-1932-1933-1934-1935-1936-1937-1938-1939-1940-1941-1942-1943-1944-1945-1946-1947-1948-1949-1950-1951-1952-1953-1954-1955-1956-1957-1958-1959-1960-1961-1962-1963-1964-1965-1966-1967-1968-1969-1970-1971-1972-1973-1974-1975-1976-1977-1978-1979-1980-1981-1982-1983-1984-1985-1986-1987-1988-1989-1990-1991-1992-1993-1994-1995-1996-1997-1998-1999-2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-2603-2604-2605-2606-2607-2608-2609-2610-2611-2612-2613-2614-2615-2616-2617-2618-2619-2620-2621-2622-2623-2624-2625-2626-2627-2628-2629-2630-2631-2632-2633-2634-2635-2636-2637-2638-2639-2640-2641-2642-2643-2644-2645-2646-2647-2648-2649-2650-2651-2652-2653-2654-2655-2656-2657-2658-2659-2660-2661-2662-2663-2664-2665-2666-2667-2668-2669-2670-2671-2672-2673-2674-2675-2676-2677-2678-2679-2680-2681-2682-2683-2684-2685-2686-2687-2688-2689-2690-2691-2692-2693-2694-2695-2696-2697-2698-2699-2700-2701-2702-2703-2704-2705-2706-2707-2708-2709-2710-2711-2712-2713-2714-2715-2716-2717-2718-2719-2720-2721-2722-2723-2724-2725-2726-2727-2728-2729-2730-2731-2732-2733-2734-2735-2736-2737-2738-2739-2740-2741-2742-2743-2744-2745-2746-2747-2748-2749-2750-2751-2752-2753-2754-2755-2756-2757-2758-2759-2760-2761-2762-2763-2764-2765-2766-2767-2768-2769-2770-2771-2772-2773-2774-2775-2776-2777-2778-2779-2780-2781-2782-2783-2784-2785-2786-2787-2788-2789-2790-2791-2792-2793-2794-2795-2796-2797-2798-2799-2800-2801-2802-2803-2804-2805-2806-2807-2808-2809-2810-2811-2812-2813-2814-2815-2816-2817-2818-2819-2820-2821-2822-2823-2824-2825-2826-2827-2828-2829-2830-2831-2832-2833-2834-2835-2836-2837-2838-2839-2840-2841-2842-2843-2844-2845-2846-2847-2848-2849-2850-2851-2852-2853-2854-2855-2856-2857-2858-2859-2860-2861-2862-2863-2864-2865-2866-2867-2868-2869-2870-2871-2872-2873-2874-2875-2876-2877-2878-2879-2880-2881-2882-2883-2884-2885-2886-2887-2888-2889-2890-2891-2892-2893-2894-2895-2896-2897-2898-2899-2900-2901-2902-2903-2904-2905-2906-2907-2908-2909-2910-2911-2912-2913-2914-2915-2916-2917-2918-2919-2920-2921-2922-2923-2924-2925-2926-2927-2928-2929-2930-2931-2932-2933-2934-2935-2936-2937-2938-2939-2940-2941-2942-2943-2944-2945-2946-2947-2948-2949-2950-2951-2952-2953-2954-2955-2956-2957-2958-2959-2960-2961-2962-2963-2964-2965-2966-2967-2968-2969-2970-2971-2972-2973-2974-2975-2976-2977-2978-2979-2980-2981-2982-2983-2984-2985-2986-2987-2988-2989-2990-2991-2992-2993-2994-2995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